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Market Outlook Good For September

Gasoline Likely To Hold Up. Kerosene, Distillate, Gas And Fuel Oil Should Be Stronger. Crude Production Not Likely To Decline. Crude Prices May Hold At Present Levels

Mid-Continent Market

HOME heating distillates, burning oils, gas oil and fuel oil give promise of being leaders in the Mid-Continent refinery market during September, with a possibility that even the lowly gasoline may sell at present or higher price levels during a great portion of the month.

The farm trade is calling for large quantities of kerosene throughout the Mississippi valley. During the past month Sinclair Refining Co. alone has bought 500 cars out of the Mid-Continent to supplement the output of its own plants. Jobbers report that they are doing an extraordinary business in kerosene. Refinery stocks of burning oils are not large and in view of probable increases in demand manufacturers are inclined to hold for higher prices.

While some jobbers have been forehanded and laid in a supply of home heating distillates, the demand during the next few months is expected to be large. Refiners are making as wide a cut as possible of this material to prepare for the rush of orders. It is to be expected that prices will move upwards.

To increase their supply of gas oil and distillates, refiners are working their fuel more closely than in the past and thus decreasing their production. Railroad demand is good now as crops and manufactured commodities are moving better. Steel manufacturers and other branches of the smokestack trade are looking towards fuel again with the result that prices have shown marked improvement already. Limitation of Smackover competition since much of that oil is moving south for bunker fuel, is another favorable factor.

Having worked their stocks of gasoline down to a reasonable level, Mid-Continent refiners are inclined to demand more money for motor fuels. Prices have advanced a half cent per gallon in the past two weeks and further increases are not improbable. Movement of gasoline may be expected to be nearly as large in September as it has been in August.

Crude prices will probably have some bearing on the market but a reduction now would not be felt as keenly as if it had been made early in August. The greatest source of danger to the Mid-Continent gasoline market is the large storage held by companies in other districts. If these competitors start dumping the competition will have to be met to get business.

Export markets in the east appear more lively and there is a rumor of an inquiry in this field today. Any buying of that character would be of great value in this market.—J. C. Chatfield.

Western Pennsylvania Market

THE turn in the northwestern Pennsylvania refinery market in the second half of August, indicates that markets in that region should be strong throughout September with the exception of gasoline, the outlook for which hinges upon crude and tank wagon markets—always dangerous things when one attempts forecasting.

Gasoline demand undoubtedly will be heavy throughout September and the first half of October. But demand does not always govern price trend as is shown by the downward movement in gasoline markets most of this summer. In Septembers of the last few years, gasoline production and domestic consumption have been about equal.

Foreign demand has thrown the balance in favor of consumption, thus the fear of large stocks should not be felt so early as September. But no one has invented a psychological governor to control the fear that may develop.

Kerosene is strong and scarce and probably will continue so throughout the month. Fuel oil should increase in demand, especially so should mills and factories increase their activity which they may to give the appearance of prosperity for political effect. Increase in industrial activity will also help the lubricating oils.

Demand for cylinder stocks has been more or less steady this year and chances are that the fall demand will be even better than that of the summer.

Viscous neutrals are picking up but prices should respond to increased demand. When neutrals were almost dead during the summer, stocks accumulated and these are now being worked off. As soon as surpluses are reduced a price advance is expected to follow. The time is probably only two or three weeks off.

Domestic and foreign demand for paraffin wax is heavy. Little wax for early delivery may be picked up in Pennsylvania now. It is doubtful whether this condition will change as some refiners are sold up until and into next year. It seems probable wax will continue to advance in price considerably during the month.—R. B. Stafford.

Chicago Market

FORECASTS for September markets are not being made freely in Chicago, where oil men consider the whole situation to hinge on a change in the posted price of Mid-Continent crude which may or may not come.

Should a crude cut come, a corresponding reduction in the tank wagon market in Standard Oil Co. of Indiana territory is considered inevitable.

Considering the present crude price as basic (calling off all bets on gasoline in case of a downward revision) there is a chance for gasoline to hold its present strength through the early part of September. Gasoline run from cheap "bootleg" crude, accumulated on producers' hands under the proration rule, has had time to do a lot of damage to the market but the market has stood up under it. There is no room to assert that it is sure to break before the major refineries increase their runs. Granted, however, it is hard to see what is holding gasoline up even now.

The kerosene outlook is not so clouded. It is strong and bids fair to stay that way. It might react to a crude cut but it would almost surely rally, for the demand is substantial and the supply limited. Jobber and refiner storage alike are depleted by the harvest demand now drawing to a close, road work is ready to start and fall is at hand when it is used more than in the spring for plowing. It will gather strength also from domestic heating demand, so it is reasonable to expect 5 cents to be bottom on refined oil before the middle of September.

Domestic distillate should pass 4 cents early in September. A crude cut will not be much of a hindrance to its advance, which has already started nearly 30 days earlier than it was expected. Conservative refiners are withholding distillate contracts from all save their regular gasoline customers and making them a mid-winter low of 4 cents or above. The spot price is almost sure to reach 4 cents by the last of September and pass it when the weather is cold.

The advance of gas oil seems certain for it must occupy a mean position between distillate and fuel oil. Furthermore, gas oil season is approaching and small gas companies are due in the market for some spot goods presently. It is moving at 3 cents now and there is no reason to expect it to be cheaper. On the other hand, the call for light fuel is sure to raise the price in September but possibly not over ½ or ¾ of a cent.

Dollar fuel oil is expected by most refiners whether dollar crude comes or not. Faith in the export market, the revival of the steel industry, the certain coming of winter and the known existing scarcity makes everybody a bull on fuel for September. The fuel market might even pass $1 before October with everything in its favor, but it has a cheap coal market to contend with and that is sufficient to keep it from running away.—Ward K. Halbert.

California Production

THE continuance of California as a factor affecting Atlantic seaboard markets in approximately its earlier-in-the-year ratio is promised for the next few months. This condition comes from two causes, one of which has to do with the almost certain maintenance of daily average production the remainder of 1924 at or above the 600,000 barrel mark daily. The other has to do with runs to refinery stills, which in July dropped below the 400,000 barrel mark daily. It is now indicated that 1924 refinery runs, considered in terms of daily averages for the entire year, will not be materially different from the 1923 record of approximately 406,000 barrels daily.

It will not be the disposition of strong California interests to ship in intercoastal traffic any large quantities of crude, nevertheless, the last half of 1924 will find average shipments around the 100,000 barrels daily mark.

With Rosecrans and Dominguez forging ahead in the production column, and with Rosecrans especially an important factor to be considered in terms of 1925 daily averages, the long look ahead would be for the Pacific coast again to exert material influence upon domestic markets generally next year.

Present evidence does not indicate a recurrence of 1923 conditions, but in the face of accretions still being made to California storage as late as Aug. 1, it is not improbable that inventories plus fresh crude in sight may be now regarded as promising considerable quantities of 1925 shipments from Pacific coast loading points to intercoastal and foreign destinations.

Meantime, unless August and September figures show draughts on California storage, no decline in Pacific coast stocks is indicated for the remainder of the year. California crude prices may hold, however, because they did not participate to great extent in the spring movement upward and because stocks are in relatively strong hands.—Paul Wagner

Mid-Continent Production

WITH Oklahoma breaking all previous records for crude production, and with an intensive drilling campaign in progress in those areas principally responsible for the state's present high output, there seems little reason to feel cheerful as to the outlook for the ensuing 30 days. Conditions may look somewhat better at the end of that time, but during September it does not appear probable that there will be any noticeable improvement in the situation.

Lacking a phenomenal rise by some field not now looked upon as important, the course of Oklahoma production during September will depend largely upon what Tonkawa does, and it is likely that that field will be sufficient to keep the state's output climbing at least for the next month. Practically all the rest of the state, including Cromwell, probably will show a general downward course during the month, so that Tonkawa's gains will be largely offset by losses elsewhere.

It is probable that Tonkawa will reach 125,000 barrels daily within the coming month, and it is likely, also, that that figure will represent approximately the peak that is to be expected from the present exploitation of the deep sand. Assuming that it does reach the figure given, it will mean an increase of better than 25,000 barrels over the present production of the field.

Most of the wells which were started soon after the early deep sand wells proved the importance of the new horizon, will have been completed by the end of September. The wells already in, while maintaining a very high production figure, are tending to decline rapidly when allowed to do so, their output being maintained by constant agitation and deepening.

Cromwell may be expected to decline steadily and materially during September, and probably will continue to decline until about the middle of October. The field is now reported down to about 51,000 barrels daily, as compared with 65,000 barrels a few days ago, and probably will get down as low as 40,000 barrels daily, before the new "crop" of wells starts coming in. There are 135 locations, rigs and drilling wells in the field, most of them having started up since recent extension wells were brought in, as most of them were started at about the same time, they will all start coming in in bunches, at from 40 to 60 days after the time they started. There is little doubt that these new wells will run the field's production up to around 100,000 barrels daily, and maybe more, but this cannot occur during the month under discussion.

Burbank has been declining for some time, and apparently will continue to do so indefinitely, as there is nothing in sight there now to cause the field's production to take an upward turn. The end of September probably will find Burbank producing not more than 70,000 barrels daily, as compared with about 74,000 barrels at present. The field's productive area has now been

THIS WEEK'S OIL NEWS SUMMARIZED

Crude Production By Districts

Oklahoma

	Aug. 30	Aug. 23
Bristow	49,050	49,100
Burbank	73,975	75,325
Cushing	23,650	23,700
Cromwell	60,350	62,030
Healdton	15,720	15,725
Hewitt	19,343	19,350
Osage—except Bubank	53,900	52,350
Stoud	19,520	21,900
Tonkawa	90,620	80,415
Wewoka	7,050	7,400
Other fields	131,190	131,100
	544,370	538,645
Increase		5,725

Kansas

Augusta-Douglass	3,740	3,750
Blankenship District	2,775	2,780
Elbing-Peabody	7,950	7,900
El Dorado	15,750	15,750
Fox-Bush	3,300	3,310
Greenwood County	24,500	24,525
Other Fields	26,000	25,850
	84,015	83,865
Increase		150

Texas and Coastal Louisiana

	Aug. 30	Aug. 23
Mexie, Currie, Richland	53,585	53,320
Corsicana, Powell	78,395	78,960
Wichita Falls district	73,550	74,595
Ranger Lime	34,010	33,795
Ranger Sand*	9,100	9,090
West Texas (Reagan and Mitchell Counties)	5,735	6,725
Panhandle	1,150	1,020
San Antonio, Luling, Mirando	44,265	44,700
Coastal Texas	71,130	75,017
Coastal Louisiana	6,720	6,770
Total	377,640	383,992
Decrease		6,352

*Includes Young, Palo Pinto, Shackleford, Coleman and Brown counties.

MARKETING

Oklahoma

Gasoline active and strong; natural gasoline scarce and higher; kerosene higher and available supply low; distillates and gas oil firmer; fuel oil 5 cents dearer.

North Texas

Gasoline strong and scarce; kerosene active and higher; distillates picking up and firm; Fuel improving.

Pennsylvania

Gasoline firm; kerosene strong and higher; neutrals appearing to be improving; cylinder stocks firm; bright stocks stronger; fuel oil steady; wax scarce and advancing.

Exports

Buying of gasoline and kerosene for September-October delivery to Great Britain helps market; buyers from other countries observing market trend and expected to buy soon.

PRODUCTION

Oklahoma production as of the last of August was the highest on record for that state, due to new wells in the deep sand at Tonkawa. One fact generally overlooked, however, is that, without these flush wells, the state as a whole would be declining. Even the older wells at Tonkawa decline fairly rapidly.

Production for the entire country shows decline. Less favorable factors in the situation are the extension of the Cotton Valley district in Louisiana, the increasing importance of operations in Reagan county, Texas, and wildcat wells in other districts that apparently open up territory worth commercial development.

Colorado-Wyoming

	Aug. 30	Aug. 23
Salt Creek	88,975	90,300
Teapot	2,270	2,750
Big Muddy	3,830	3,775
Grass Creek	3,200	2,810
Elk Basin	1,945	1,205
Greybull	50	50
Byron	45	60
Rock River	3,300	3,170
Lance Creek	1,990	1,950
Poison Spider	745	720
Osage	375	400
Hamilton Dome	950	955
Mule Creek	770	1,120
Natchez	180	185
Lander	385	425
Pilot Butte	75	80
Lost Soldier	5,390	5,200
Ferris	145	125
Craig	2,175	2,050
Cat Creek	3,920	4,175
Kevin-Sunburst	3,825	4,040
Miscellaneous	835	990
	125,375	126,535
Decrease		1,160

North Louisiana and Arkansas

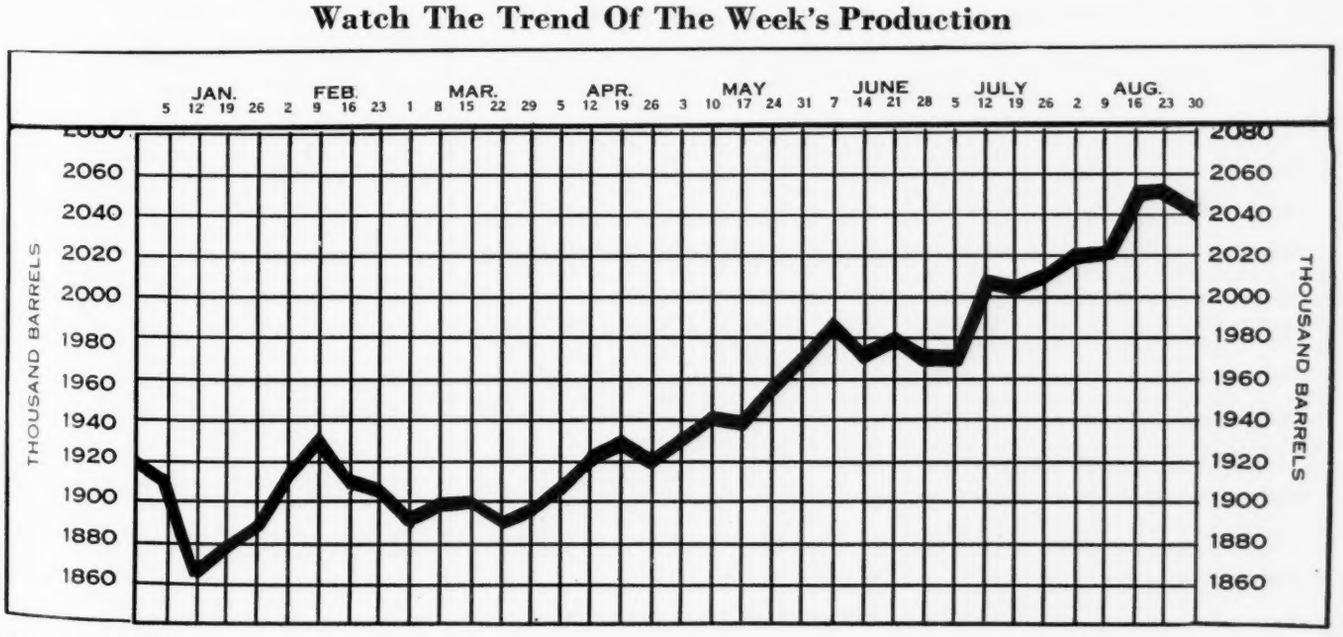
Daily average	Aug. 30	Aug. 23
Caddo, light	10,000	9,925
Caddo, heavy	2,000	1,785
Red River-DeSoto	5,300	5,495
Haynesville	17,610	17,325
Homer	7,480	7,670
Bellevue	4,600	4,620
Cotton Valley	7,000	14,296
ElDorado	12,000	11,965
Smackover, light	37,080	36,923
Smackover, heavy	85,120	87,746
Stephens	2,080	2,100
Nevada County, Arkansas	1,340	.....
Totals	191,630	199,850
Decrease		8,220

California

	Aug. 30	Aug. 23
Long Beach	149,000	152,000
Santa Fe Springs	57,000	58,000
Torrance	55,000	56,000
Huntington Beach	42,000	42,000
Dominguez	26,000	24,000
Rest of State	290,600	288,400
Total	619,600	620,400
Decrease		800

All Eastern	103,300	103,500
Total U. S.	**2,045,930**	**2,056,787**
Decrease		**10,857**

Watch The Trend Of The Week's Production



quite definitely determined and its course in the future will in all probability be downward from this time on.

No other field in the state at this time gives promise of being able to show much of an increase within 30 days, although there are several likely spots where pools of considerable importance may be developed within the next few months. Kansas, which has been increasing in production recently, probably will continue to gain during September, and may be producing around 90,000 barrels daily by the end of the month. New wells will be drilled in during that time in the Rainbow Bend field, Cowley county, and in the Coleman pool, west of Independence, these two being the state's most prolific new areas at present. These new wells, coupled with the steady settled production of the rest of the state, probably will keep its output gaining.

Now that a month of steadily increasing production has not brought forth additional crude cuts to those already posted, it seems reasonable to expect that crude prices are not to be reduced again for the present. If the present strong gasoline market maintains its position during September—and there is reason to believe that it will—it seems probable that crude prices will not be lowered. Later in the fall, when gasoline consumption is falling off, lower crude prices are to be expected, especially if Oklahoma production remains at a high figure at that time. Otuside of Oklahoma, the oil situation seems to be improving steadily, with production decreasing and demand for crude increasing, as evidenced by offers of premiums in Pennsylvania, and the lifting of proration in some of the North Texas fields.—A. F. Hinton

Texas-Louisiana-Arkansas Production

PRESENT evidence indicates a minimum recovery of 5000 barrels an acre from 7000 acres of productive ground, or no less than 35 million barrels ultimate yield, from developments on University lands operated in Reagan county, Texas, by the Big Lake Oil Co., and the Texon Oil & Land Co.

This estimate is based upon fairly conclusive evidence of minimum possibilities and without taking account of unmeasured factors that conceivably will bring this part of the Marathon Fold region into much greater importance in the future.

It will be noted that the aforementioned figures concede about 11 sections of proved ground when development shall have been carried forward enough to delimit the edges of the so-called Big Lake pool. As a matter of fact, it is too early to make certain that the field will not be more extensive. Until a greater scope has been indicated, however, only the more conservative figures are considered justified.

That the Big Lake pool is to be the only development along the fold on which it is located is considered inconceivable, hence the prediction herewith definitely made that the future will show other important pools along the northeasterly trending fold, either in Reagan or adjoining counties.

Elsewhere in Texas it is not on the cards that the next month or so will show any extraordinary developments. The area northeast of Powell, where the first of the year promised one or more new pools in the Woodbine sand belt of the Balcones fault zone, may be considered to have been deliberately held back at a time when fresh quantities of flush oil would have created a further strain upon the market.

There and elsewhere development has been controlled wherever possible; and this statement extends also to the Cotton Valley, La., field, where operating conditions are not the most satisfactory that the industry has encountered but where a sizeable volume of daily average production could be built up were it not possible to curtail development in the manner now being followed.

Developed fields in north Louisiana and south Arkansas promise little immediate change, except that Archer county, Tex., and Smackover, Ark., should show slightly greater declines than older pools. These changes, however, will not be great and should not materially affect oil industry economics.—Paul Wagner

Coming Meetings

American Chemical Society, Ithaca, N. Y., Sept. 8 to 13. Petroleum Section features one day's program.

West Virginia Oil & Natural Gas Ass'n., Charleston, W. Va., Sept. 17, 18.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 17, 18, 19.

Pennsylvania Independent Oil Men's Ass'n., Penn-Harris Hotel, Harrisburg, Pa., Sept. 22.

Thirteenth Annual Safety Congress, Petroleum Section, Brown Hotel, Louisville, Ky., Sept 29 to Oct. 3.

International Petroleum Exposition, Tulsa, Oct. 2 to 11.

National Petroleum Marketers Ass'n., Public Hall, Cleveland, O., Nov. 18, 19, 20.

N. P. N. wil be glad to carry notices of meetings of national associations, state jobbers associations and other organizations in which oil men are interested. Notices should be sent to the Editorial department a month before meetings are to be held.

Big Lake Compression Plant Authorized

HOUSTON, Aug. 29.—Big Lake Oil Co., operating 16 sections and the discovery well of the Santa Rita district, Reagan county, authorized the construction of a compression gasoline plant to cost approximately $250,000 at the time of its annual meeting in Pittsburgh, it is reported in advices from the east.

The Big Lake Co., composed of individuals identified with the Transcontinental Oil Co. and the Arkansas Fuel Oil Co., was the only operating interest with production in the Reagan county field until the completion of the Texon Oil & Land Co's. well in sec. 1, block 8, University Lands, early in the week. Texon owns a 25 per cent stock interest in the Big Lake company.

Skelly Oil Issues Block Of Convertible Notes

NEW YORK, Aug. 30.—Skelly Oil Co. has issued $6,850,000 of three-year 6½ per cent convertible gold notes which will be offered to stockholders of record Sept. 5. Subscription rights will expire Sept. 30. The notes will be dated Oct. 1, 1924, and will be payable Oct. 1, 1927. They will be convertible up to Oct. 1, 1926, into common stock at par. Concerning the issue, President W. G. Skelly said:

"This financing will be used to retire bank loans and other current indebtedness and after its completion will leave well over $7,000,000 of working capital in the company's treasury. This money will be available at the proper time for the development of the company's extensive oil reserves and will permit it to advantageously meet any other condition that may arise in the oil industry during the next few years.

"In spite of the fact that plants and properties have been very substantially expanded in the past two years, the Skelly Oil Co. has not, during this time undertaken any financing. The company has been able to carry out this extensive development program solely through the use of current earnings. The present new money, therefore, might properly be considered as a partial reimbursement to its treasury for the generous capital expenditures during this period. The company at the present time has virtually no oil in storage and is in excellent position to profit by the present crude situation."

An adjusted balance sheet as of June 30, last, showing the effects of the new financing, reveals total assets of $63,758,567, of which $10,649,845 represents current assets. The current liabilities in this adjusted balance sheet are $1,801,374. In the consolidated income account for the six months ended June 30, last, net earnings after interest, depreciation and depletion, but before Federal taxes, amounted to $1,499,945.

Court Denies Tax Payer's Injunction Sought Against McMaster

By Ward K. Halbert

STAFF REPRESENTATIVE

SIOUX FALLS Aug. 30 A QUESTION, altogether legal in character, blocked issuance here today of a temporary restraining order against Governor W. H. McMaster's oil operations. The governor, who also is candidate for the senate and persecutor of the oil men of his state for campaign purposes, may continue selling gasoline for at least 20 days more. Probably it will be another month before the matter can finally be settled.

The case came on for hearing today before Judge L. L. Fleeger of Parker, S. D., in the state district court in Sioux Falls. Action had been brought by Jacob Shillingstad, a farmer and automobile owner who lives in Lincoln county, S. D., near Canton. He was represented in court by George J. Danforth, law firm of Danforth & Barron, Sioux Falls.

The plea was for a temporary restraining order against Mr. McMaster as head of the state highway department and not as governor. There were other defendants, namely E. A. Jones, state auditor, and J. L. Driscoll, state treasurer.

The case took a peculiar turn a few days before the trial when it became known that Buell F. Jones, attorney general of South Dakota, would have nothing to do with the trial. He said that Mr. Shillingstad had come into the courts as a tax payer, in the name of the state, and that he, as state's attorney, had no right to oppose his cause. So Mr. McMaster wes represented by Byron S. Payne, law firm of Sutherland, Payne & Linstad, Pierre, S. D.

Reason for Denial

It is impossible to divorce the politics in this issue from the bare facts of the case and leave anything except the most technical legal question to argue upon. Of course, the politics at issue has nothing to do with the trial of the case and can not be introduced into court.

So the debate pivoted on the allegation of the plaintiff that Governor McMaster and the highway department, had taken state money from the maintenance fund and used it in purchases for which there was no appropriation. To the satisfaction of those who listened, Mr. Danforth had that allegation proven when he finished presenting his complaint.

The denial of the restraining order was not a result of that argument at all. It was a question of jurisdiction. Mr. Payne made a clever defense of the state's oil enterprise. He set up a doubt in the mind of the judge as to the plaintiff's right to enter his plea in the district court. In his rebuttal Mr. Danforth was unable to clear up the point and the denial resulted. The next step is for the case to be decided on its merits, and that will not require a court hearing.

The plaintiff was given 10 days to get all papers ready and submit them to the court. After that the defense is given 10 days more to file an answer.

Beating the Governor at His Own Tricks

F. H. Buehler, Dacotah Oil Co., Madison, S. D. has stolen some of Governor McMaster's stuff. He observed that all of the governor's pumps were set up at bulk stations, usually in out of the way places, and that these distributing stations gave no service other than to pump the gasoline into the customer's car.

The customer wanting free air or water or the little attentions that filling station operators the country over render as a matter of course, had to go elsewhere.

"If that's what they want I can give it to them too," said Mr. Buehler to himself. So he put in a pump at his out of the way bulk station and advertised that people wanting cheap gasoline badly enough to drive down to the bulk station after it, and to do without the customary services, could have it at that pump at the same price Governor McMaster was asking.

Mr. Buehler got some of the governor's business but he didn't lose any to speak of from his uptown stations where people were more concerned with careful attention than with saving 2 or 3 cents.

With these documents, must be filed all supporting affidavits and matters of evidence. Judge Fleeger showed no disposition to allow the case to drag, and he has a reputation for promptness in making decisions. It is reasonable to assume that he will not use more than 10 days in studying the evidence and the citations himself, so by Oct. 1 the matter should be decided, once for all.

This case of the Lincoln county farmer against McMaster is not the first instance of an effort made to stop his oil activities, which have cost the jobbers of the state thousands of dollars. The first effort to enjoin him was on June 26 when a request for restraining order came up in the U. S. District court before Judge James D. Elliott. Judge Elliott denied the request on that occasion, but did so by withholding judgment, and no decision has been rendered yet.

In that earlier case, the Independent Home Oil Co. of Fairmont, N. D., was the plaintiff. The oil company alleged that McMaster's competition had damaged them financially. The firm's headquarters is in north Dakota but it operated South Dakota stations. Judge Elliott stated in his opinion the governor's selling gasoline at cut rates had not damaged the Independent Home Oil Co., because their closest competing stations were about 75 miles apart. This led the Independent oil men of South Dakota to believe the case in Federal Court was lost. so thev have not been awaiting its doubtful outcome with much hope.

The case in Federal court and the case in the state court heard here today, were for the same purpose, although instigated by different parties. They were both for the purpose of stopping Governor McMaster from selling gasoline to the public. Except that they they were in different courts, the legal line-up was much the same today as on June 26. Mr. Danforth represented the North Dakota oil man, and also the Lincoln county farmer. Mr. Payne represented the governor both times.

In the case in Federal court, Attorney General Jones assisted because it was his own state against a foreign company. But the attorney general's office was just as much in evidence today as in the other proceeding.

Some Pertinent Facts

Although the history of Mr. McMaster's oil operations is well known, starting more than a year ago. it has been developing right along, and a few new and interesting facts came to light at this hearing. The first annual accounting of the state's oil operations was submitted to the court attached to Mr. Payne's official answer to the Shillingstad complaint.

Those figures, if analyzed, will show that the state is still not making money, or at least had not gotten on its feet financially at the end of its first year of operation. The accusation made by National Petroleum News early this year, that McMaster was serving a few patrons with gasoline at central points where it afforded most publicity, doing so at a loss and making the other

motorists in the state bear that loss, was correct as the state's own figures show.

As a matter of fact there is a grave question (even at the close of an active season, buying on the open market and monopolizing the trade in several sections of the state), that the governor is operating profitably. The figures published herewith, indicate successful operation, and require explanation. Most likely they are correct as far as they go, but all the stations are not mentioned.

Only the stations of the highway department are listed because only the highway department was attacked in this law suit. The stations of the fish and game department and those of the penal institutions are carefully left out.

Omit Equipment Cost

Accepting all the items in the annual statement as correct, the state of South Dakota has operated a growing oil business for 12 months and has a liquid balance of $725.05 for all its effort. Of course the state is not after profit. Openly, Governor McMaster has said a number of times, that he only wanted to break even.

He has bought material in the open market which this year has been the cheapest market in gasoline, he has sold it at a price named by himself as equitable; he has accumulated roughly $725 and has not even started to pay for his equipment. Anybody can see that an Independent oil company has no chance to operate in the face of competition like that.

In the defendant's answer to the court, the purchases of equipment over the first year were listed for the six stations now operating. It must be understood that each of these stations is a bulk plant equipped to do retail business with dispensing pump. At Aberdeen there are two dispensing pumps. Here is the equipment cost:

Aberdeen	$3,360.34
Brookings	1,402.76
Huron	2,319.41
Madison	2,297.77
Mitchell	1,886.44
Watertown	2,531.02
Total	$13,797.74

Granted for a moment that the governor's statement is true; that he has aid for all the gasoline he sold: that he has charged the oil department for the labor of employees paid by other departments; that he has taken cash out of the gasoline fund to pay the state's 2-cent road tax; and that he has made a profit of $725 in the year. Still that $725 looks sick alongside of an equipment cost of $13,797.74 even if it is only expected to pay depreciation for the one single year in question.

C. F. Butterfield, manager of the Mitchell station, points out in private conversation that all the stations are not a year old yet. That is true, but the gasoline season is gone, or nearly gone for this climate, and they are not going to make much more money this year. The station at Huron and Watertown were opened last June 5, and the Aberdeen station started two days later. The Mitchell station has been running by fits and starts for a year, opening Aug. 8, 1923, and selling goods roughly two-thirds of the time.

The other two stations are not so old. The Madison place did not open until Aug. 5, 1924, and the Brookings establishment only started Aug. 15.

But this is not all the stations. The plant at Rapid City is not mentioned in this list because it belongs to the fish and game department. Others are left out for similar reasons. The old accusation, that the governor's oil activities are beyond an audit, is still true. The costs are so garbled and distributed and hid under this and that appropriation, that he can put out almost any sort of a statement—perfectly true as far as it goes.

Mr. Payne says that the state's gasoline business is entitled to credit for its accomplishment. The 20 cars bought from The Texas Co. last summer were to be emptied into milk cans on side tracks over the state, but the Interstate Commerce Commission interfered. While the governor was thinking up some way to get rid of the material it underwent a 1 cent per gallon market depreciation. Car rental and demurrage ran up a joint bill of more than $2,000. When finally sold at a loss to a Chicago brokerage house the deficit had to be earned and paid, and it has been. Giving McMaster his dues, he has made his business pay part of its honest debts.

Another interesting development of the past year is the fact that the Independent oil men of South Dakota have learned how to cope with the governor and his type of competition. Take for instance Fred Buehler, head of the Dakotah Oil Co., at Madison. The governor started business out there in a flurry of publicity and applause which died away presently, as flurry always does. When he waked up to the real situation he was not doing a great deal of business because his price and service had been met, with equal price and equivalent service by the oil men.

Mr. Buehler started a fad. He noticed that the governor was running nothing but a "punk service pump" at a bulk plant.

Stripped of all of its publicity and politics, that's what the governor had in Madison. So Mr. Buehler put a "punk service pump" down at his bulk plant, and met the governor's price at it and only at it. He advertised it a little and the curse was taken off of the political gasoline station. Mr. Buehler did not lose much business at his down-town stations and he picked up part of his loss down at the bulk plant.

Thus having the state licked at one point it began to spread. Of course it has not saved the day, but it promises to mean much to the South Dakota Independents. The greatest thing it has done is to show the governor what it costs to run a gasoline station where

Consolidated Statement of Gasoline Stations
Profit and Loss Statement from Aug. 8, 1923 to Aug. 8, 1924

(As Submitted to Court)

SALES		
Jas. B. Berry's Sons Co	$10,000.00	
Huron Preliminary	7,337.40	
Huron Station	19,890.67	
Aberdeen Station	20,910.93	
Madison Station	486.24	
Mitchell Station	67,276.39	
Watertown Station	22,997.55	$148,901.18
Inventory August 8, 1923, Mitchell	852.03	
PURCHASES		
Texaco Company	14,945.94	
Huron Preliminary	7,222.19	
Huron Station	17,107.95	
Aberdeen Station	20,347.76	
Madison Station	2,058.36	
Mitchell Station	57,398.99	
Watertown Station	20,201.31	$139,282.50
		$140,134.53
Inventory August 6, 1924.		
Huron Station	1,831.07	
Aberdeen Station	3,495.72	
Madison Station	1,597.83	
Mitchell Station	2,663.42	
Watertown Station	2,081.10	11,669.14
Cost of Gasoline Sold		$128,465.39
GROSS PROFIT		$ 20,435.79
2c Gasoline Tax		
Huron Station (Pre)	162.72	
Huron Station	2,243.14	
Aberdeen Station	2,335.30	
Madison Station	57.44	
Mitchell Station	7,862.12	
Watertown Station	2,646.26	15,306.98
		5,128.81
EXPENSES		
Huron Preliminary	704.11	
Huron Station	567.54	
Aberdeen Station	593.92	
Madison Station	6.25	
Mitchell Station	1,607.94	
Watertown Station	924.00	4,403.76
NET PROFIT		$ 725.05

one station can not monopolize the business.

McMaster was not the first to learn that a small profit on many sales beats a big profit on a few sales. That's old stuff to most merchants. Now his narrow margin on a few sales is likely to put him in the red at some stations, and the battle of the Independents is won—out of court. In fact Attorney Payne said in his speech in the district court Saturday, "The governor plans to have gasoline stations only at a few central points where there is a lot of public work in progress."

The presentation of the complaint by Mr. Danforth before Judge Fleeger was a remarkable address. It was void of all "flambo" and bitterness, but it presented the cause of a tax payer, a motorist who pays gasoline taxes among others, charging that the state administration was diverting funds to unlawful channels. "Tax on gasoline is for road and bridge maintenance, and not for purchase of gasoline for re-sale," the address alleged. It was long. The complaint itself exceeded 3000 words.

In his answer, Mr. Payne made a delightful talk. It wandered far from the point at issue, as such talks sometimes do, but it was well said. He showed how the state had saved money buying gasoline in tank car lots. He showed how foolish a public servant would be not to take advantage of that economy. "Altogether," he said, "the state's gasoline bill runs around $450.000 a year under its present road building program." That statement is thought to be about correct, but the state does not buy all the gasoline itself. Most of it is purchased by road contractors.

The rebuttal argument of Mr. Danforth was in vain. He insisted that the plaintiff had no objection to the state's buying its own gasoline, the injunction was to stop retailing. He declared that a correct audit would still show South Dakota's oil business "operating in the red" but that, too, was beside the point in the court's mind.

The question was—"Does a plain taxpayer have any right to start litigation in the name of the state, in a district court of that state, when the taxpayer in question has not lost enough money on his own account to warrant his entering the suit in his own name?"

The attorney for the plaintiff said yes; and the attorney for the defense said no. Nobody cited a South Dakota statute but laws of other states were brought up in point. Then the court decided that the taxpayer in question, the Lincoln county farmer, Mr. Shillingstad, had not lost enough money nor was likely to lose enough to justify an injunction.

The candidate-official goes on making himself dear to the voters at the expense of the oil men of the state, if not at the expense of the voters themselves. The gasoline season draws to a close. Election approaches. Twenty days from now and all the papers will be "in," and after that maybe somebody will be able to do something about it.

Brown General Manager Of Oil Well Supply

PITTSBURGH, Aug. 30.—D. J. Brown, formerly vice president and sales manager of the Oil Well Supply Co., Pittsburgh, has been made vice president and general manager, to succeed the late Grant Hubley.

Back in 1887 when Pennsylvania alone produced more oil than all the rest of the world put together, D. J. Brown started in the employ of the Oil Well Supply Co. as office boy. He has been

D. J. Brown

with the company continually since that time, serving successively as order clerk, purchase and sales agent, assistant manager, treasurer, and vice president and sales manager.

Since his association with the Oil Well Supply Co., he has seen the company grow from a group of a few men, to a tremendous organization which maintains more than 100 branches and factories scattered throughout the oil fields of the world.

Mr. Brown is liked and admired, not only by his asociates and the entire organization of which he is now general manager, but also by hosts of oil men in all parts of America. He is known to his friends and associates as "D. J." or plain "Jim".

Mr. Brown is a director of Oil Well Supply Co., Republic Casualty Co., Homewood Peoples Bank, Standard Life Insurance Co. and Jumbo Manufacturing Co., and a member of Duquesne club, Union club, Shannopin country club, and Traffic club. He attends the Fourth United Presbyterian Church of Pittsburgh, N. S.

New Conservation Commissioner

SHREVEPORT, Aug. 29.—Governor Fuqua has appointed his private secretary, W. J. Everett, state conservation commissioner to succeed Frank T. Payne, who was temporarily named to hold down the office when Dudley Berwick's name was not confirmed by the state senate some weeks ago. Mr. Berwick had been appointed by former Governor John M. Parker.

Mr. Everett is among the best known newspaper men in Louisiana. All the conservation service of the state will be under the commission headed by Mr. Everett. The service has to do prominently with the oil and gas industries.

Pennant Marks Site Of Drake Well

TITUSVILLE, PA., Aug. 28.—Brief memorial services were held at the sixty-fifth anniversary of the drilling in of the Drake well. The celebration this year was in charge of the Daughters of the American Revolution. Boy Scouts raised a 10-foot pennant over the site of the well. This marker is visible for considerable distance from the site and is expected to help commemorate the birth of the petroleum industry.

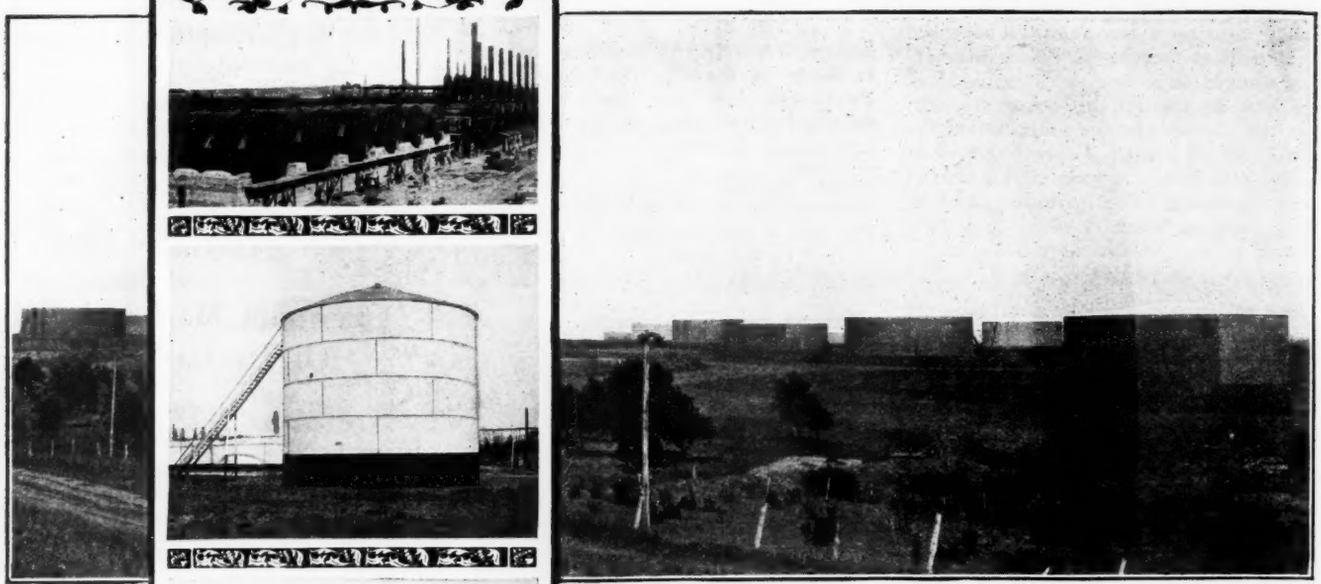
The Drake Day Association elected these officers: George H. Torrey, Oil City, president; vice-presidents, H. R. Merritt, C. L. Suhr, S. Y. Ramage, J. A. Fawcett, W. W. Splane of Oil City, Lewis Emery Jr., Bradford, N. V. V. Franchot, Olean, N. Y., J. French Miller, Franklin, R. D. Benson, New York City, J. E. O'Neil, New York city, H. A. Logan, Warren, J. E. Oyer, Pleasantville, John H. Markham Jr., Tulsa, Okla.

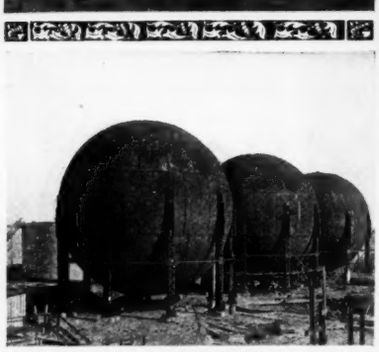
H. G. Johnson, secretary; John H. Scheide, Titusville, treasurer; directors, Arthur F. Seep, P. C. Beers, Thomas R. Stanley, E. R. Boyle, Oil City, Thomas Phillips Jr., Butler, James L. Wilbur, Pleasantville, L. B. Carter, J. M. Bloss, L. C. McKinney, Frank F. Murray, James H. Caldwell Jr., Titusville, Col. U. G. Lyons, Warren.

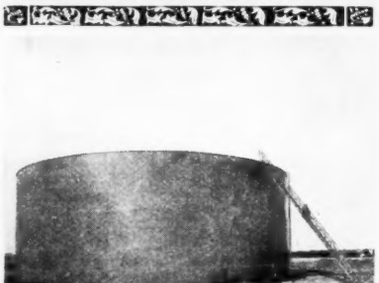
May Be New Gas Field

SHREVEPORT, Aug. 29.—What may prove to be a new gas producing field was uncovered last Sunday when the John Bryson No. 1 of Mays & Bell, trustees, on the T. D. Wilson headright survey in Harrison county, Texas, blew in at 955 feet, making 25 million cubic feet of gas. The well is near the Louisiana state line, three miles south of Waskom, Tex., and is about five miles south of a well belonging to Fuller & Scott on the Fuhr lease which blew in at 1965 feet as a gasser. The operators, it is understood, will kill the gasser, set 8-inch and complete it as a commercial gasser.

Another well offsetting this gasser is being drilled by A. J. Scott of Greenwood, La., and former Mayor J. McW. Ford of Shreveport.







First

Strange things were being done one day more than two years ago at a tank farm in Humbolt, Kansas. Strange pieces of equipment, the like of which had never before been seen on a tank farm were being moved on the roof of an 80,000-barrel tank. The sound of riveting was hushed. The heater's fire was cold.

The soft red glow of ready rivets had for the first time been replaced by the quick flash of the arc.

Commercial welding of oil tank roofs was being done for the first time.

Hortonwelding was being born.

The first work was followed with other attempts to perfect the Hortonweld process and finally we announced that our efforts to develop a satisfactory welding process for roofs and bottoms had been so successful that we recommend Hortonwelding for roofs and bottoms as being better construction than riveting.

We were not content to make this announcement from the appearance of our welds. Our decision was based upon the results of a large number of tests which we made upon actual test specimens. The table of joint efficiencies published in our corporation magazine, The Water Tower, was the first published result of any extensive tests made on electric welded joints.

Just as Hortonwelded roofs and bottoms have served other oil companies they can serve you. Whether you are replacing roofs or purchasing new tanks we believe you will find it decidedly to your advantage to obtain a quotation from us.

CHICAGO BRIDGE & IRON WORKS

CHICAGO	NEW YORK	DALLAS	SAN FRANCISCO
2125 Old Colony Building	3145 Hudson Terminal	1639 Praetorian Building	1060 Rialto Building

HORTON TANKS

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Our Position And Our Recommendation To Oil Industry On Gasoline Tonics

By Warren C. Platt

BECAUSE of the continued great interest in gasoline tonics we ask the oil industry again to give study to the following points in relation to that subject:

In the course of the tremendous and rapid development of internal combustion engines it is entirely conceivable that most anything can happen in the way of new discoveries, not only new discoveries on manufacturing a motor fuel from crude petroleum but from other sources, and by the addition of chemicals by others than the immediate manufacturer of the base product.

It is also entirely conceivable that this development may come from without the oil industry, although the oil men are bending every effort to be the first to discover every improvement of motor fuel. Oil men undoubtedly will lead but others may beat them to it, and if so the oil industry will be the first to offer praise for the achievement.

What the oil industry is interested in is the best possible motor fuel from every standpoint that can be made.

If that fuel continues to be made from petroleum, the oil industry will make it. If it must be made from something else, the oil industry will endeavor to be the first to do it.

Industry Will Try to Make It

While a transition to an entirely different fuel may be difficult at some time, the oil industry will endeavor to be the manufacturer and distributor of that fuel, providing there is no other use for petroleum and its products of equal value commercially and which develops co-extensively with the development of an entirely different fuel. In such an event it's possible the oil industry, even the oil distributors, might willingly relinquish the manufacture and distribution of motor fuel to others.

We believe the foregoing general statement will be concurred in by every oil man.

The immediate thing the industry is interested in is the development of a product from crude petroleum which will make the best possible motor fuel, whether that product comes entirely and exclusively from crude oil or is aided by the addition of something else to the petroleum product. The industry wants to make the product called gasoline the most efficient possible for the public use.

Therefore, we believe the industry generally will concur in the statement that if there is any gasoline tonic, by whomsoever made, that will make a better motor fuel for the public, and which is worth the price which may have to be asked to cover its cost, and that tonic can be had under fair and reasonable business conditions, the industry welcomes that tonic and will lend every aid possible to further its use.

Hundreds of Fake Tonics

But all this presupposes the tonic to be an honest article, honestly sold and advertised and worth to the motorist the price asked.

Unfortunately for the oil industry—as well as for the motorist—various government agencies and others in the past 10 years have found that practically every one of the many hundreds of tonics, possibly numbering as high as 1000, have not had the merit claimed for them and have not been worth the price asked. More unfortunately still, it was found that many hundreds of them, to be conservative, were very obviously conceived and sold for the sole purpose of defrauding the public.

Despite this unfavorable record for gasoline tonics, despite this unsavory past, despite the obviously crooked men who promoted them, we still urge that the industry should keep its mind open and investigate thoroughly everything which may be expected to improve motor fuel—that is keeping the expenditure of the industry's time and money within reason, the same as any business man would do on the investigation of anything new in machinery or anything else.

Investigate Them Thoroughly

But we do submit that in view of the fact that 99.9 per cent of all tonics so far produced have been worthless and many of them downright frauds, that in view of the fact that the oil industry, when it takes up a tonic recommends that tonic, puts its own reputation for truth and honesty back of that tonic, that the industry—and every individual oil man—should exercise the utmost care that the tonics which it may take up do exactly all that is claimed.

Here, it seems to us, is the nub of the whole tonic situation and the point that most tonic manufacturers of today, have sought to avoid. Yet it's the point that the oil industry, in order to protect its good name, must insist upon being frankly and honestly met by every tonic manufacturer who would have his product distributed by the oil industry.

If the oil industry, or any individual oil company, were to lend its aid, even unwittingly, to the distribution of a tonic that was fraudulent it would be most embarrassing for the industry. If any portion of the oil industry were to undertake the distribution of tonics it would only be a short while before various government agencies, municipal, state and national, would investigate and if the tonics were found worthless, the oil companies would not only undoubtedly be charged with fraud but the resulting publicity would be one more count in the indictment that public fancy has brought against the whole oil industry, and the effect would be felt by every oil company whether party to the fraud or not.

Oil Industry Would Be Blamed

Nor would it save the reputation of the individual oil company nor the oil industry to try to pass the "buck" back to the tonic manufacturer and say that he seemed to be reputable and "he said" it would do all the things claimed for it; nor would the industry's reputation be saved if the oil company made only a casual investigation. In fact, the mind of the public and of its prosecuting officers is such that no matter what kind of an investigation the oil company made, no matter how thorough, if it was later shown the product was worthless the oil company and the oil industry would suffer severely.

Therefore, National Petroleum News sincerely and most emphatically urges on every oil company that it not only be absolutely satisfied as to the merits of the tonic but be in a position to go into court and prove it, right up to every letter of every claim before it takes on distribution of a tonic.

But National Petroleum News does not believe that it is the duty of any oil company—although of course, always its privilege—to spend its own time and money for a scientific investigation of a proffered tonic.

We believe that it is the duty of the manufacturer of the tonic to make such investigation and offer to the oil men the absolute and convincing proof of the results of such investigation.

We further believe that every right-minded manufacturer of tonics, or anything else for that matter, should be only too glad to furnish such proof without expense to the customer; in fact that is the way the business world has progressed.

It is going back to the dark ages for a seller to say to a prospective buyer—as most tonic manufacturers do say—"I

claim so-and-so for this article but I refuse to prove it to you in any way. It's up to you to find out if it will work, if you don't want to take my word for it." Some manufacturers of tonics have the nerve not only to say all this in substantially this way but to add—to paraphrase their language, "But you are a chump and eternal fool and the type of business man that no community should countenance if you don't take my unsupported word for it."

Probably a cry of protest will come from tonic manufacturers that this isn't a true report of their sales talk but we must insist that in the main it is.

It's no hardship for a manufacturer to get absolute proof of the value of his tonic, if the tonic has the value he claims for it. There are many places in the country where this proof can be obtained, many skilled commercial laboratories, many skilled engineering departments of big universities as well as others who can do it. Some laboratories and some individuals are better fitted to make tests of this sort than others. Of the university laboratories, automobile engineers recognize that among the better ones are Cornell, Ohio State University, and the universities of Michigan and Wisconsin. These have done a great deal of testing work on internal combustion engines. The U. S. Bureau of Standards is one of the best equipped institutions in the country, and of course the straight technical schools, like "Boston Tech" can do it.

There are plenty of places where a tonic manufacturer can get the necessary tests made. The tests would not take long, anywhere from a few days to several weeks, depending on the thoroughness of the tests and the speed with which they are pushed. The expense is not burdensome. For even the most grueling tests the expense would not be over $1,000 or $2,000. One agency estimates that to test a tonic out to the very last hair on the dog's tail, missing nothing, would possibly cost $1,600.

This is not a burdensome cost to any legitimate manufacturer. It would be among the least of the expenses he would be up against in getting started in most any business.

It's nonsense for a tonic manufacturer to say that he will not have such tests made until after he gets his patents allowed, or because he fears they will disclose the "secret" ingredients of his product. If he does not want some one to investigate his product before a patent is allowed there is only one thing for him to do and that is keep it off the market.

Engineers running any such tests above named would not learn a bit more about what is in a tonic than can any engineer or chemist in the country who would buy a sample at a dealer's and analyze it. If it's possible for an engineer running a test at the tonic manufacturer's instigation, to find out any "secrets," it's possible for another engineer or chemist to learn them when prompted by an outsider. The tonic manufacturer discloses his secret—if secret there be—the minute he offers his product for sale, whether he offers any proof as to its merits at the same time or not.

Nor is the tonic manufacturer justified in asking the prospective oil company customer to test it out for himself in his own cars and trucks. The oil company can, if it wants to, and such tests would have some value but they would be far from conclusive. A gasoline engine is so easily affected by so many things, that such tests ofttimes are worthless. The engine is not only affected by atmospheric temperatures and will perform differently for every variation of even a single degree in that temperature, but its performance varies according to atmospheric humidity, barometric pressure, a variation of every ounce of pressure in the tires, the rate and exact direction of the wind, road conditions, etc., etc., and to say nothing of the minute variation in the mechanics of every car even from the same maker, and to say nothing about the human being who is driving. That last is the biggest factor in checking an engine. He is governed by so many varying conditions that it's impossible to standardize him. It is necessary to reduce the possibility for error to the absolute minimum on the test of a tonic in order to get anywhere.

For the above reasons, tests by any considerable number of human beings, are of problematical alue. Tests by any considerable number of the general public, except for the most obvious thing, are worth still less because the above mentioned variables are still further away from control and being reduced to accurate record.

So the old fashioned testimonial, unsupported by any real engineering data, when offered on a gasoline tonic, we believe should carry far less weight than when given for any of our far-famed patent medicines of the past. Hundreds of millions of dollars of business was built up on these old patent medicine testimonials on concoctions that finally were proved to be absolute frauds.

Make the tonic manufacturer prove the value of his wares.

You Don't Know Till You Try It, Says Boyce

CLEVELAND, Sept. 2.—Harrison Boyce, in an interview with National Petroleum News in New York, Aug. 21 asked the writer:

"Have you ever tried Boyce-ite in your car?"

Receiving a negative answer, he exclaimed:

"Well, then, you don't know anything about it. Try it yourself and see what it does. That's the trouble with these people who are knocking Boyce-ite. They don't try it in their cars but they take the word of some long whiskered scientific men that it is no good. Try it."

Concerning the progress report on tests of Boyce-ite furnished to the Boyce & Veeder organization by the Sheffield scientific school of Yale University, and the protests made by Professor Dudley, head of the department of mechanical engineering of that school, of the statements made in Boyce-ite advertising that the product was "approved" by the Sheffield school, Mr. Boyce stated that he received the report "without any strings to it."

"The report of the tests was sent to me without any stipulation being made that it was confidential," said Mr. Boyce. Boyce.

"The Sheffield people must have known that the tests they made of their report were of no value to me unless I could use them for selling purposes. We did use them and when the dean of the school called me up protesting our use of the report in our advertising I told him that I would continue to use them in any way I saw fit."

Mr. Boyce stated that he bought the first two straight-eight Packard cars that were delivered in New York City and started them out, driving around the streets of the city. One was run on Boyce-ite treated gasoline and the other on plain gasoline. The car without Boyce-ite carboned up, he said, after a few thousand miles while the one using Boyce-ite had made more than 13,000 miles at the time of the interview and was still free from carbon and showed no need of valve-grinding or any other overhauling.

An article showing the form of contract under which the Boyce & Veeder Co. sought to supply a large oil company with Blu-Green Boyce-ite for distribution to the public through visible pumps, will be found on page 61 of this issue.

Boyce Sues Nicholas

CHICAGO, Sept. 2.—The Boyce & Veeder Co., Inc., proprietors of Boyce-ite, last week filed suit against L. V. Nicholas, president and the National Petroleum Marketers Association asking $1,000,000 damages.

The suit is based on the complaint that statements made concerning Boyce-ite in a confidential bulletin sent out to members of the association by Mr. Nicholas were libelous. The bulletin was one of a regular series that Mr. Nicholas sends out to the membership periodically, was strictly confidential in nature and bore a printed warning that nothing contained in it was to be published.

Crude Shipped Regularly From Two New Rocky Mountain Fields

By Special Correspondent

DENVER, Aug. 27

REGULAR shipments of crude began last week to move from the Moffat field in northwestern Colorado and the Hogback dome in the Navajo Indian reservation in northwestern New Mexico. It is true that the shipments at first were not in quantities which will upset any equilibrium in the oil markets, nor are they likely to do so in the immediate future; but the people of the two states sensed in the events the beginning of an era which may vitally affect their future prosperity.

The first shipment from the new Moffat field in Colorado took place August 19, when six tank cars left Craig on the Denver & Salt Lake railroad billed to the Mutual Oil Co. at Florence, Col., where it will be run through that company's refinery. The cars were transferred to the Denver & Rio Grande Western at Denver which transported them to their destination.

The crude was sold by the Prairie Oil & Gas Co., purchaser under contract of the oil from the Moffat dome from the Texas Co. and the Transcontinental Oil Co., and came from the discovery well on that structure which came in as a producer last January and was completed in March with an initial production of 4580 barrels a day. The movement constituted the commencement of regular shipments which are going principally to the Producers & Refiners Corp. refinery at Parco, Wyo.

The Moffat dome district is equipped with a four-inch temporary line laid on the surface from the discovery well to a tank farm at Craig, a distance of 17 miles, where approximately 180,000 barrels of tankage has been installed. The gathering system and tankage was constructed by the Prairie company under its contract with the Texas and Transcontinental companies, which provided for a time and quantity test of the discovery well, the only producer in that district.

Upon the outcome of this test and other drilling operations in that area depends the ultimate construction of a 117-mile 8-inch line from Craig to Parco by the Prairie Pipe Line Co., surveys for which are now being made. The discovery well produced 4595 barrels the first day it was opened July 22 and is now making a little under 2000 barrels a day of pipe line oil and approximately 9 per cent of fresh water. The quantity of water at one time was 12 to 14 per cent, but recently has shown a decrease.

The first shipment of oil out of New Mexico was made on August 16, when a train of 13 narrow gauge tank cars pulled out of Farmington, on the Denver & Rio Grande Western, billed to the Utah Oil Refining Co. at Salt Lake City. This constituted the first commercial shipment of crude out of New Mexico. The oil came from the wells of the Midwest Refining Co. The shipment, like the one from Craig, was a center of attention, and the train was in charge of two of the oldest engineers in the company's service and bore appropriate banners.

The oil is transported from Farmington to Montrose, Col., in narrow gauge tank cars that weigh about 16 tons each when empty and have a capacity of 155 barrels of crude. At Montrose they are run up on a trestle alongside the same company's standard gauge tracks and the oil is transferred from narrow to standard gauge tanks by gravity flow. From that point they are transported by the Denver & Rio Grande Western to Salt Lake City.

The Hogback field is controlled by the Midwest Refining Co., which has a lease on a tract of 4800 acres from the Navajo Indians, of which about 200 acres is considered proven territory with the limits of the pool in the first sand fairly well determined on three sides. The oil comes from the Dakota sand at around 800 feet and is unusually high grade testing 60.5 Be., with a gasoline content of 70.82 per cent recoverable by ordinary methods and 81 per cent by cracking, it is said.

The Midwest has completed 8 wells on the dome. Nos. 1, 3 and 4 are water wells. No. 2 had an initial production of 1200 barrels; No. 5 made 500 barrels; No. 6 made 400 barrels and Nos. 7 and 8 made 1200 barrels each. No. 1 was the discovery well and was originally a producer, but was killed to make a test of the lower sand in the Dakota series where water was encountered. Location has been made for No. 9 to the north of the other producers.

A 3-inch welded line 22 miles long extends from the field to Farmington. Tankage consists of three 5000-barrel bolted tanks at Farmington and two 5000-barrels and ten 500-barrels bolted tanks in the field. The loading racks at Farmington have a capacity for 13 tank cars.

To Open Invincible Well

SHREVEPORT. Aug. 30.—Invincible Oil Co's. well remains closed in, awaiting completion of earthen storage. It probably will be reopened about Tuesday. Ohio Oil Co. is drilling plug today in its No. 1 Bank of Cotton Valley, in Sec. 22 of the southwest extension. Other tests will be made next week in the C. E. Robinsons Duke well in Sec. 22 and in the Ohio Oil Co's. No. 4 Bodcau Lumber Co. in Sec. 15, in which last string of casing has been set. Both of these latter wells are also located in the southwest extension.

The most important test now pending in the Cotton Valley field is that of the Alabama Petroleum Co. and Moffitt and Murphy on the Pardee lands in the northeast corner of Sec. 24 probably located on the southeast slope of the structure. Final string of casing will soon be set in this well.

Special Rates To Tulsa Via I. C. And Frisco

CHICAGO, Aug. 27.—Special rates and preferred service to oil men who attend the International Petroleum Exposition and Congress in Tulsa, Oct. 2 to 11 inclusive, are being offered by the Illinois Central railroad. Announcement of the special service has just been made from the office of W. G. Ferstel, district passenger agent, 208 South La Salle st., Chicago. Here is the line-up:

Special through cars will be operated between Chicago and Tulsa, leaving the Central station of the I. C., in Chicago, at 10 a. m., (Central Standard Time) on Oct. 1 and Oct. 2, arriving in Tulsa the following morning at 7 o'clock.

Those wishing to leave at night may board the Illinois Central train leaving Chicago at 11:30 p. m. (Central Standard Time) arriving in St. Louis the following morning in time to connect with a Frisco train reaching Tulsa at 11:50 p. m. the same day.

The special fare proposition is the customary one—A round trip for a fare and a half, providing there are as many as 250 passengers to take advantage of the certificate proposition. There is no question in the minds of the oil men nor the railroad officials either, that the attendance in Tulsa will not be sufficient to justify the rate.

In buying a ticket to the International Petroleum Exposition and Congress, a prospective traveler should state this purpose to the ticket agent and ask for a convention certificate. The fare from Chicago to Tulsa is $25.70 but the certificate will make the fare from Tulsa to Chicago $12.85 returning.

Further information about the service may be obtained by writing to Mr. Ferstel, or to E. G. Baker, district passenger agent of the Frisco railroad, 112 West Adams st., Chicago. Both of these men are prepared to make reservations.

Buys Interest in Refinery

ARDMORE, OKLA., Aug. 30.—F. E. Heckethorn has sold his interests in the Cameron Refining Co. at Ardmore to the Palacine Oil Co., a marketing company. Officers of the Palacine company are: Edward Galt, president; John M. Cameron, vice-president; W. H. Gilreath, secretary and general manager, and T. E. Garrison, treasurer. The company has built new stations at Healdton, Bennington, Boswell and Valiant, Okla., and is operating bulk stations also at Antlers, Ardmore, Hugo, Idabel, Broken Bow, Fort Towson, Davis, Mill Creek, Stratford, Wilson. It has service stations at Ardmore, Benington, B. Swell, Hugo, Valliant, Healdton, Stratford, Wilson and Graham.

There is every indication that the refining industry has touched bottom

The refiner, who has not already installed the Dubbs Cracking Process, will prepare for the upturn now if he is a wise refiner

Universal Oil Products Company
Owners of the Dubbs Process
312 South Michigan Ave
Chicago Illinois

Smackover Now Commands Price Comparable To 24-26

CHICAGO, Aug. 25

A FREIGHT rate of 14 cents 100 pounds on Smackover crude, from Smackover, Ark., to ports on the Gulf of Mexico, which became effective on Aug. 18, marked an important turn in the northern fuel oil market. And until some other turn of events takes place fully as important, there is not likely to be a wide differential between the price of Arkansas crude fuel and Oklahoma refinery fuel in this market.

Facts which led up to the incident are really all based on the failing of the Mexican crude supply to meet the increasing demands of Gulf coast refiners. Several months back they began to look more to Arkansas for their heavy crude supply. And in spite of an unfavorable freight rate at that time, they became heavy purchasers of Smackover production early this year.

About two months ago the rate from Smackover to the Gulf was 20½ cents or about 63½ cents a barrel. The cut to 14 cents, which amounts to about 43 cents a barrel, is roughly a cut of 20 cents a barrel on heavy oil shipped from Smackover to the Gulf. The rate into Chicago is 29½ cents per cwt., or about 91½ cents a barrel. The way to getting the rate adjustment was fraught with considerable difficulty, but it is at last effective.

Makes Two Outlets

Of course (regardless of Smackover to Chicago rates) Arkansas crude fuels have always been quoted in Chicago on a basis of Group 3. That condition will continue, of course, so long as Group 3 is the dominating factor in the tank car market in Standard Oil Co. of Indiana territory. But now the buyers and shippers of Smackover fuels have two outlets and are in a position to play one against the other. In this way, Smackover has finally come into its own.

Standard Oil Co. of Louisiana first procured an advantageous rate on Smackover crude. The rate was 14 cents to Baton Rouge for refining purposes, and 14 cents to Avondale, ostensibly for export.

At any rate, the Gulf coast Independents were able to get the 14-cent export rate first. It went into effect more than a month in advance of the other. Naturally it did not affect much oil, applying mostly to material sold as bunker fuel, and by the way, Smackover is a popular bunker fuel, and used extensively by Mississippi river boats.

Domestic Rate Important

Refiners whose markets and plants demand heavy oil, offer an extensive market. Naturally, some of the benefits of the freight rate cut will be theirs, but it also is a boon to Smackover dealers. Arkansas production is not increasing like that of other fields and the demand has improved. Going in, to take the place of Mexican oil, it is drawn automatically from the northern market. The work it has been doing in the north must now be performed by refinery fuel, and refinery fuel has strengthened as a result.

Oklahoma 24-26 refinery fuel sold as low as 70 cents in Chicago in June. There have been crude reductions since then, but the price is 85 cents now and appears to be strengthening.

About the only protest to the new rate came from Houston. At that port the refiners felt they were entitled to just as good a rate as New Orleans, but for some reason the Texas ports were denied it. Houston has a domestic rate on Smackover of 15½ cents now, as compared with New Orleans' 14 cents.

Interested parties in Texas raised an objection but it was overruled. The apparent discrimination against Texas points, it is said, was to avoid upsetting the whole oil rate structure in Texas.

Those who have watched the development of the Smackover crude fuel market in Chicago have found it interesting. It was introduced on the market here, shortly after the Smackover field was brought in and a railroad was built to serve it. The first cars were base stuff indeed.

Although it was loaded in tank cars through a pipe, it had to be taken out with hooks in some cases. Somehow in transit it formed itself into solid lumps so large that it squeezed them to come through the dome of a tank car.

The inferiority of the crude, the traditional danger of it to use as fuel, and the difficulty in handling it, made Smackover cheap. It was hailed as a "rotten unsatisfactory substitute for fuel oil," but that condition was not to last.

What little gasoline was in it began to be removed in pipe stills. The water was disposed of by processes. Means of overcoming the other objectionable elements were found. Consumers discovered that it was heavy and produced more heat per barrel than 24-26 fuel. Then it was proven to have a good cold test which is worth a great deal to a consumer in this climate.

Advanced in Price

Within six months Smackover ceased to be sold as a cheap product. It was cheaper than refinery fuel, to be sure, but it was sold on its merits. Several large Chicago marketers began to push it. Some of them even specialized in it. But after it had been a product of recognized merit for a year, there lingered a discrimination between Smackover crude fuel and East Field crude fuel.

The discrimination was not a false one. East Field crude has less sulphur and is therefore suited to special purposes where Smackover may not go. But East Field crude is not so much scarcer than Smackover that there is a difference in price. Both fuels are selling in Chicago at 80 to 85 cents a barrel this week. East Field crude fuel can be shipped safely to any customer who has bought Smackover, but Smackover cannot often be substituted when the customer specifically ordered East Field fuel. Otherwise the products are alike and enjoy the same market.

May Get Scarce

The demand for Arkansas crude fuels on the Gulf coast may almost remove it from the Chicago market, now that freight rates make it more profitable to the dealers to ship in that direction. Dealers here do not imagine that it will ever vanish from the northern market. It has now acquired a special demand and that demand must be supplied, although it may often be equal or higher in price than refinery fuel.

25-Cent Premium Paid For Bradford Crude

BRADFORD, PA., Aug. 30.—Premium of 25 cents a barrel is being paid by the Emery Pipe Line Co. on all crude run into its lines on Aug. 27 and until further notice. This premium is above the posted price for Bradford crude of the Seep agency on the date of delivery.

The action of the Emery line followed the offering by the Tide Water Pipe Line Co. of five-year contracts to producers and carrying provision for a 25-cent premium above the posted price of the Tide Water. These contracts are renewable and can be cancelled only on three years' notice, it is said. Only producers that sign a contract get the premium, it is said.

The Emery has been paying a premium of 1 cent a barrel for the last 12 or 15 years. The paying of premiums came as a surprise as on Aug. 21, the Seep agency reduced the price of Bradford crude 15 cents, thus making the differential over other Pennsylvania crude only 10 cents. It has been as high as 50 cents this year.

Offers Prize For New Testing Method

Staff Special

TULSA, Sept. 2.—A prize of $500 has been offered by the Association of Natural Gasoline Manufacturers for the best method of taking the vapor tension which can be accepted by the Bureau of Explosives and the industry. Every person in the industry is eligible to compete for the prize and the association hopes that an improved method will be discovered.

The Bureau of Explosives is now advocating adoption of the Anderson method. The association's technical committee has come to the conclusion that the Anderson method is not more accurate than the old method and is resisting its adoption.

Plan Good Quarters For Expo Visitors

TULSA, Sept. 2.—Every visitor to the International Petroleum Exposition and Congress in Tulsa this fall will be housed with as much care as if he were the personal guest of the city, according to the plans made by the housing committee of the oil show. Manager E. F. McIntyre has estimated that 200,000 visitors will be entertained in Tulsa between Oct. 2 and 11, and under his direction the committee will set about to provide accommodations for that number.

Complete arrangements will be made before the opening of the show, and all assignments will be carried on through the uptown headquarters of the exposition. Every visitor who does not intend to remain with friends in the city is asked to report to the office immediately upon his arrival in Tulsa, and will be conveyed at once to a comfortable and attractive room.

In a preliminary survey, the committee has listed 104 hotels in the city ranging in size from large hostelries accommodating hundreds of guests to boarding houses. This census includes only such hotels as conform to the standards of service set by the Exposition. The most important single feature contributory to the success of the plan will be the listing of rooms in private homes, which will be open to the guests. Last year the citizens of Tulsa responded to the requests for rooms with four rooms for every man who registered at headquarters, and have given ample assurance that their response this year will be no less enthusiastic. The prices of both hotel and private rooms will remain exactly the same as under ordinary circumstances.

Phillips Petroleum Co. Issues New Stock

NEW YORK, Aug. 30.—Stockholders of the Phillips Petroleum Co. have until Sept. 8 to subscribe to a new issue of 370,133 shares of capital stock at the rate of one share for each four shares held. The price is $32 a share. The stock has been selling at better than $33 on the New York Stock Exchange. The issue has been underwritten.

The purpose of the issue is to reimburse the company treasury for capital expenditures heretofore made and to pay off current indebtedness.

In a letter to stockholders outlining the offering, President Frank Phillips stated the company's stock of crude oil on June 30 was somewhat under high point of the year. "The company is in a position," he says, "to store its major production during periods of congestion or low prices and some oil is now being stored. Gasoline production is all being sold and stocks are being substantially reduced."

The company's producing properties have been extended and in first six

R. P. Anderson, recently appointed technologist of the American Petroleum Institute

months of 1924 had net production of 4,869,349 barrels of crude oil. This was an average of 27,000 barrels daily. Casinghead gasoline operations have been expanded through purchase and construction of eight additional plants which, when consolidation of those acquired and those building are completed will give Phillips 20 natural gasoline plants with production of about 225,000 gallons daily.

After giving effect to this financing, balance sheet as of June 30 will show approximately $20,300,000 of current assets and $868,000 of current liabilities, a ratio of better than 20 to 1. Earnings for the first six months, after deducting interest, federal taxes, depreciation and depletion, were $6,166,951, equal to $4.16 a share on the stock outstanding June 30.

Sun Refinances Debts At 5.5 Per Cent

PHILADELPHIA, Aug. 30.—A syndicate of bankers has offered a Sun Oil Co. issue of $10,000,000 15-year 5½ per cent sinking fund gold debentures at 99¾ and accrued interest to yield 5.52 per cent. Proceeds will be used in part for the retirement of the company's $4,264,000 of 10-year 7 per cent sinking fund gold bonds due in 1931 and the $4,623,500 of 10-year 6 per cent bonds due in 1929 which are to be called Nov. 1.

The company for the first half of 1924 reports net earnings of $2,636,661, before interest but after depreciation and depletion. Net for the whole of 1923 before interest but after reserves, was $2,439,445. Sun Oil Co. total net profits in the last 10½ years has been $33,999,612 of which only $5,494,776 has been paid out in dividends, according to J. Howard Pew, president.

Mr. Pew summarizes the company's property as follows:

"Company and its subsidiaries own or lease more than 1,000,000 acres, developed and undeveloped, in twelve different states, from the developed acreage of which they are now producing over 17,000 barrels of crude oil per day, and own 400 miles of pipe-lines, three well equipped refineries with over 25,000 barrels daily refining capacity, 10 tank steamers aggregating more than 100,000 d. w. tons and 1250 steel tank cars. It has a well equipped organization for the distribution and marketing of its products in the United States, and through stockholding interests, excellent facilities for the distribution of its product in Europe."

Upon completion of this financing, Sun Oil Co. will have outstanding in addition to this issue $4,000,000 of two-year 6 per cent gold notes due next June 15; $492,000 of 6 per cent equipment certificates due serially from Oct. 1, next, to April 1, 1928, and $30,624,800 common stock, shares of $100 par value.

Wife Of D. W. Moffitt Dies At Tulsa

TULSA, Aug. 30.—Mrs. Jennie Moffitt, wife of D. W. Moffitt, vice-president of Cosden & Co., died at her home here today after several years of ill health. Mrs. Moffitt was 64 years old.

Burial is to be at Wichita, Kan., the former home of the Moffits. Mrs. Moffitt will be buried by the side of her daughter Helen who was killed a year ago by an explosion while she was on her way to school.

In addition to her husband, Mrs. Moffitt is survived by two sons, Glenn G. Moffitt of Wichita, and D. C. Moffitt of Detroit, and one daughter, Mrs. W. C. Henneberry of Eagle Grove, Ia. The children were called to Tulsa recently when Mrs. Moffit's condition became critical.

Start Refining at Missoula

MISSOULA, MONT. Aug. 29.—A refinery under the management of C. W. Hart, formerly associated with the Hart-Parr tractor, has started operations here as a skimming plant. A summer gasoline with an initial of not over 125 degrees F. and winter gasoline of not over 115 degrees F. initial, is being turned out. It is being sold to distributors on contract at 3 cents under the tank wagon price prevailing.

MANISTEE, MICH., Sept. 3.—The Campeco Oil Co., a subsidiary of the Camden Petroleum Co., Chicago, recently completed a bulk station at Arcadia, Mich., according to G. C. Ackers, in charge of the company's business in Michigan.

Tonkawa Production Passes 100,000 Bbls. Other Fields Decline

By A. F. Hinton

STAFF REPRESENTATIVE

TULSA, Aug. 30.

OKLAHOMA production reached a new high point for all time the past week, increasing 5,725 barrels per day to an estimated daily average of 544,370 barrels. The record for the week was 11,000 barrels per day higher than the peak reached the first week in June a year ago.

The new record was made in spite of the fact that, almost without exception, every field except Tonkawa produced less oil than the previous week. Tonkawa, however, increased its daily average production more than 10,000 barrels and with the aid of new wells completed towards the close of the week will show a similar increase next week without doubt.

August has been a spectacular month for production in Oklahoma. For the week ending August 2, Oklahoma production was estimated at 487,795 barrels per day. This week's estimate closing the month shows an increase of 56,575 barrels per day, all gained during a period of 28 days. The average increase in production has been 2,000 barrels per day.

At the beginning of the month there were four wells in the Tonkawa field producing from the deep pay and the daily average production of the field was 38,090 barrels. During the 28 days 14 additional wells have found the Slick sand and production of the field has increased 52,530 barrels per day to a daily average of 90,620 barrels. It will be noted that all other fields in the state have increased only 4000 barrels per day during the month so that almost the entire blame for the mounting production of the state must be laid at the door of Tonkawa.

The Cromwell field's production for the past week has just been above 60,000 barrels on the daily average but the decline has been rapid and today the field is producing only a little over 50,000 barrels from 83 wells, about what it began the month with. The decrease in Cromwell production has been going on for two weeks, the peak having been 65,085 barrels per day during the week ending Aug. 16.

Although six new wells were completed in the Burbank field the past week, bringing the total number producing to 1566, the field continued its steady decline. The average of 73,975 barrels is a decline of 1350 barrels per day.

Two new wells are included in the production of the Stroud field for the week bringing the total to 42, but production declined 2480 barrels per day to an average of 19,520 barrels. The Papoose pool produced 11,635 barrels per day from 40 wells during the week, a decrease of two wells and a decrease of 1582 barrels per day in production.

Wells Completed

WELLS completed in Oklahoma during the week jumped to 99 as compared with 73 in the previous week. Of this number 61 were oil wells, 5 gas wells and 33 dry holes.

Five completions are reported in the deep sand at Tonkawa and 13 are listed from the Cromwell field, resulting in a sharp increase in total new production and average initial production per well. The 61 wells came in with a total initial production of 56,191 barrels, an average of 921.1 barrels per well. For the preceding week 45 oil wells gave a total initial of 27,041 barrels, an average of 608.9 barrels per well.

In Kansas only 9 wells were reported completed, of which 5 were oil wells and 4 dry holes. Total new production was only 402 barrels or 80 barrels per well. In the previous week there were 28 completions of which 18 were oil wells.

Field Operations

THERE are 29 fewer field operations reported in Oklahoma and 1 less in Kansas for the week ending Aug. 30 than the previous week. While the number of drilling wells in Oklahoma dropped 54 to a total of 744, the number of rigs was increased 26 to a total of 195. Total operations for the state were 1375 as compared with 1404 the previous week.

In the Tonkawa field new locations were reduced from three to one and rigs from 5 to 4, but drilling wells increased from 56 to 60. The total of operations in the field is unchanged at 72.

Wewoka-Cromwell districts reported an increase of 8 locations to a total of 42, an increase of 22 rigs to a total of 59, but a decrease of 27 drilling wells and an increase of 3 in shut down operations to 35. Total operations for the field increased only 6 to 307. Reports from other fields in the state show no material changes. The same is true of Kansas.

Tonkawa Tops 100,000 Barrels

CLOSING days of the week have seen four new wells completed in the deep sand at Tonkawa which have pushed production of that field well above 100,000 barrels per day. There are now 18 deep sand wells, which produced 77,780 barrels during the 24 hours ending at 7 a. m. today. This report covers the production for only one hour of Gypsy's No. 85 Shawver which came in at 6 o'clock and produced 212 barrels during the first hour.

Following is a report of production from deep sand wells for the past nine days:

Date	Total Production	No. Wells
Aug. 22	56,349	13
Aug. 23	62,833	14
Aug. 24	62,245	14
Aug. 25	61,700	14
Aug. 26	61,214	14
Aug. 27	61,708	14
Aug. 28	65,238	16
Aug. 29	66,390	17
Aug. 30	77,780	18

The Gypsy Oil Co. brought in three of the four new wells in Tonkawa this week. The first was No. 84 Shawver NEc NE¼ NW¼ 2-24-1w which made 3042 barrels the first 18 hours. The second, No. 82 Shawver NEc NW¼ NW¼ 2-24-1w came in for 3200 barrels initial, while No. 85 Shawver made 212 barrels the first hour.

Pennock's 5D on the C. C. Endicott farm NWc SW¼ SE¼ 34-25-1w was the fourth well for the week. It gauged 1625 barrels the first 13½ hours.

The Wentz Oil Corp. No. 45 McKee NEc SW 34-25-1w is still the star producer of the deep sand. This well was deepened during the week, and its production brought up to 10,460 barrels per day. This well has a 6¼ inch hole at the bottom and is leading operators to the belief that, the larger the hole at the top of the sand, the larger production the well will make. This information comes a bit late, however, since most of the wells drilling for the deep pay have started down under a plan which will give them a smaller hole unless they undertake an expensive and laborious underreaming job.

The past week it has been indicated that considerable new production is necessary every week to keep production up to its present level, let alone increasing it. Producers with wells in the sand are using every artifice to keep the wells flowing at their best pace. Agitation and drilling deeper is resorted to nearly every day.

An example of how the field slips is seen in the fact that deeper drilling of the Wentz well and two new wells in gave the field approximately 6000 barrels of new production during the 24 hours ending at 7 a. m. Aug. 28th. In spite of that fact production of the field was only 3530 barrels greater than the day before. In other words nearly 2500

barrels of new production was needed during the 24 hours to keep production from slipping below its previous level.

Cromwell Field

THERE has been little of interest in the Cromwell field the past week. The new crop of wells are being pushed as rapidly as possible, but none of these will be in until some time in October. Production of the field has been declining steadily the past week. For the 24 hours ending Saturday the field produced approximately 51,000 barrels. It is to be expected there will be a further steady decline during nearly all of September, since no new wells of importance are yet near the producing horizon.

The chief item of interest in the field during the week was the deepening of the Central National No. 1 in the SEc SW¼ SE¼ of 4-10-8. This well is responsible for the large amount of new drilling in the northwestern extension of the field. It originally came in flowing 120 barrels per hour, but later declined to 85 barrels per hour. This week it was drilled four feet deeper to a total depth of 3392 feet and increased its flow to 104½ barrels per hour. The sand in this well was topped at 3330 feet.

It was a wise old owl who originally spoke up and said that "it never rains but it pours." Likewise the producer who said that whenever you drill in Oklahoma you find oil. The past week has been marked by the bringing in of a flock of rank wildcats as producing well which give promise of being the start of new fields of more or less importance.

Roxana's New Discovery

EARLY in the week Roxana Petroleum Corp. penetrated a prolific gas sand in its wildcat in the NWc NE¼ NW¼ of 12-8-8, Hughes county. Later the well began spraying oil and gradually increased its production to 600 barrels per day and 45 million feet of gas. Yesterday it was reported the tools were accidently dropped in the hole and were blown entirely out of the well. It is estimated that the well is now making 1000 barrels per day. The well has a total depth of 3411 feet.

Locations have been made for four offsets to the well and material is be-

Completions In Oklahoma And Kansas Week Ending August 30, 1924

OKLAHOMA

Beckham County

Company	Well No.	Location	Depth	Init. Prod.
Texas-Santrock	1	SWc SE NW 14-9N-23W	T. D. 3005	Dry

Carter County—Graham

Company	Well No.	Location	Depth	Init. Prod.
Fitzgerald	2	C SE SE NW 23-2S-3W O.W.D	2136–2143	75
Twin State	3	C NE NW SE 23-2S-3W	2574–2617	35

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Patsey Kirk	8	C SW SE SE 31-2S-2W	2285–2305	40
Pure	31	C SW NW SE 4-4S-3W	3897–3925	25
Carter	46	SEc NE 21-4S-2W	2235–2255	40
Continental Sup	1	C NE NE SW 18-2S-2W O.W.D	T.D.2806	Dry
Magnolia	1	C NE NE SW 21-4S-2W	T. D. 3780	Dry

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Sartain et al	2	SWc NW 32-17N-8E	T. D. 2775	80M
Olean	6	SWc SE SW 32-17-8E	3448–3477	100
Pure	14	SWc SE NW 17-15N-8E	3745–3792	250

Creek—Stroud

Company	Well No.	Location	Depth	Init. Prod.
Transcontinental	1	SWc SE SW 6-14N-7E	4131–4170	400

Creek County

Company	Well No.	Location	Depth	Init. Prod.
White	1	SWc NE 2-14N-8E	2453–2485	45
Tibbins	2	C SW SE SW 12-14N-8E	2385–2405	55
Mann-Smith	1	NEc SW 20-19N-8E	T. D. 3022	Dry
Waite Phillips	1	SEc NW 30-14N-8E	T. D. 3447	Dry
Jomack	5	NEc NW SE 9-16N-9E	T. D. 3503	Dry
Devonian	3	NWc SE SE 9-16N-10E	T. D. 2847	Dry

Creek—Mounds

Company	Well No.	Location	Depth	Init. Prod.
Noble O. & G	1	Lot 4, Blk 13	1930–2013	25
Henry-Shelton	1	Lot 19, Blk 12	2038–2061	25

Garvin County

Company	Well No.	Location	Depth	Init. Prod.
T. P. C. & O	3	SEc SW SE SE 8-1N-3W	1630–1666	110
T. P. C. & O	3	CEL NE NE SW 13-1N-3W	1532–1575	25
Kennedy Bros	1	NWc SW NE 3-1N-2W	T. D. 2006	Dry
Garver Bros	1	SWc 31-1N-2W	T. D. 245	Dry

Grady County

Company	Well No.	Location	Depth	Init. Prod.
Tuttle	1	SWc SE NE 10-9N-6W O.W.D	T. D. 2735	Dry

Hughes County—Papoose

Company	Well No.	Location	Depth	Init. Prod.
T. B. Slick	1	C SW NW NE 3-9N-9E	3287–3309	816 30M
Berry	4	C NE NW SE 4-9N-9E	3329–3335	900
Atlantic et al	2	C NE NE SW 4-9N-9E	T. D. 3349	Dry

Jefferson County

Company	Well No.	Location	Depth	Init. Prod.
Hambro	2	CSL NE SE 33-6S-5W	1368–1370	50

Kay County—Tonkawa

Company	Well No.	Location	Depth	Init. Prod.
Pennok	1-D	SEc 34-25N-1W	4076–4092	1700
Pennok	4-D	NEc SE SE 34-25-1W	4013–4031	3000
Comar	5-W	C NW NE SE 34-25N-1W	3968–3990	4419
Comar	1-W	NEc SE SE NW 34-25-1W	4143–4149	5324
T. B. Slick	5-E	C SE SW SW 35-25-1W	4020–4033	2900
Wentz	22	NEc NW NE SW 34-25-1W	T. D. 2357	Dry

Lincoln County—Stroud

Company	Well No.	Location	Depth	Init. Prod.
Amerada	2	SEc NE SW 1-14N-6E	4178–4193	110
Amerada	8	NEc SW 12-14N-6E	4120–4149	450
Willis et al	2	Blk 10, Lot 13	4104–4180	480
Chas. F. Noble	1	Blk 8, Lot 10	4048–4145	720
H. A. Hull	7	NWc SW NW 12-14-6E	4136–3165	312

Murray County

Company	Well No.	Location	Depth	Init. Prod.
Corn Huskers	1	NWc SW 16-1N-2E O.W.D	T. D. 2520	Dry

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Veegler	1	NWc NW 30-14N-16E	T. D. 1800	Dry

Noble County—Tonkawa

Company	Well No.	Location	Depth	Init. Prod.
Gypsy	83	C NW NE NW 2-24-1W	4020–4036	4430
Comar	5-B	C SE NW SE 2-24-1W	1839–1858	20

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Deaner & Edgar	1	CSL NE SW 15-11-11E O.W.D	T. D. 3349	Dry

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Josey Oil	1	SWc 16-13N-11E	2617–2636	50
Gladys Belle	4	CWL SW NW 6-12N-12E	2508–2548	50
Meridian	1	CEL NE SE NE 23-16N-11E	T.D.2768	Dry
Aztec	1	SEc 35-12N-11E	T. D. 1255	Dry
Misener	13	SEc NW SW 16-14N-14E	800–815	5
Bohnert	2	NEc NE 19-14N-15E	T. D. 1500	Dry

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Pioneer	3	CEL NW 5-20-11E	1698–1718	50
Gray	4	NW SE NW NE 28-20-11E	2313–2370	100
Breene-Markham	10	NW SE NW NW 23-21-10E	1565–1591	245
Tidal Osage	1	NE NW 31-21-12E	1920–1943	1500
Thompson-Black	3	C NW SE NE 29-22-8E	2758–2763	100
Superior	4	SW SE SW 3-23N-8E	2572–2634	15
Marland	11-A	SE NE SE 20-23N-8E	813–821	8
Lawson	8	NE SE NW NW 28-25-8E	1053–1093	15
J. R. Hadley	1	CEL W½ E½ NW 34-21-12E	T. D. 2225	Dry
Johnson et al	1	NW SW 6-26-10E	T. D. 2006	Dry
Miller-Treadway	1	SW NE 14-28-4E	T. D. 3640	Dry
Evidence	1	SW SE 20-28-11E	T. D. 1996	Dry
Craig et al	3	SW SE SW SE 28-29N-11E	T. D. 1520	Dry

Osage—Burbank

Company	Well No.	Location	Depth	Init. Prod.
Carter	15	C SW SE SW 16-26N-6E	2925–2990	540
Petroleum Drlg	9	CSL SW 26-26-9E	1220–2150	6M
Skelly-Phillips	1	NE NW SW 9-27-5E	2936–2959	80

Pawnee County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	2	SEc NE NE 21-20N-6E O.W.D	3004–3060	12M
Fern	1	SEc NW 22-20N-6E O.W.D	3072–3114	50
Mann et al	1	SEc NW NE 17-20-7E	2695–2720	225

Payne County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	SWc NW 34-19-4E	3898–3903	20
Carter	1	NEc NW NE 18-18N-5E	T. D. 3932	Dry

Seminole County—Cromwell

Company	Well No.	Location	Depth	Init. Prod.
Pure	1	C SE SE SE 9-10N-12E	3408–3495	2040
Transcont.-Sinclair	1	C SE SW SW 9-10-8E	3434–3460	3820
Roxana	1	C SE SW SW 10-10N-8E	3420–3530	1430
Roxana	4	C SE NW SW 10-10-8	3420–3505	3650
Burk Greis	2	C NW SE SW 10-10-8	3433–3538	4170 60M
Mid-Kansas	4	C NE NW NW 15-10-8	3429–3520	2600 30M
Gypsy	3	C SW NW SW 15-10-8	3514–3564	1080
Snowden et al	1	C SW NW NE 15-10-8	3416–3552	1506 60M
H. F. Wilcox	5	NWc SW SW 15-10-8	3463–3550	1440
Carter	4	C SW NE NE 16-10-8	3434–3507	2005
Hoffer-Shore Line	2	C SE SE NE 16-10-8	3515–3580	1200
Hoffer-Shore Line	4	C SW SE SE 16-10-8	3491–3560	106
Gypsy	6	C SE SW SE 16-10-8	3539–3570	1080

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Hambro	1	SWc NE 31-2N-8W O.W.D	T. D. 2470	Dry
Rogers-White	1	NWc NE 14-2N-5W O.W.D	T. D. 1518	Dry
Priddy	1	NEc SE SW 23-1N-9W	T. D. 2200	Dry
Magnolia	2	CNL S½ NE NW 30-1N-8W O.W.D	T. D. 2602	Dry
Mid-Kans	5	SEc NW NW SW 18-2S-7W O.W.D	T. D. 2225	Dry

Tulsa County

Company	Well No.	Location	Depth	Init. Prod.
Caldwell et al	1	Lot 6 Blk 2, 8-19N-12E	1962–1970	50
Hartman-Williams	1	Lot 18, Blk 1, 8-19-12	1955–1972	20
Pennok	1	SWc NE NW 28-19-12	T. D. 2602	2M
Slick et al	1	C SE NE SW 1-17N-14E	1282–1284	100
Thomson-Black	3	SEc NW NW SW 5-16N-13E	1745–1760	2M
Hendrick	8	CWL NW NE 29-19-12E	T. D. 2226	Dry
Eppler et al	1	SEc NE NE 30-19-12	T. D. 2291	Dry

Washita County

Company	Well No.	Location	Depth	Init. Prod.
R. B. Hartman	1	NEc SW SE 23-9N-17W	T. D. 4150	Dry

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
White Eagle	1	SEc NE 21-17N-17E	T. D. 425	Dry

KANSAS

Cowley County

Company	Well No.	Location	Depth	Init. Prod.
Ramsey et al	1	SWc 18-30-6E	T. D. 2870	Dry
Southwestern	1	SEc SW NE 18-32-6E	T. D. 3475	Dry

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Simmons-Burke	1	NWc 18-22-11E	T. D. 2201	Dry

Woodson County

Company	Well No.	Location	Depth	Init. Prod.
Wrightsman	1	NEc SW SE 26-25-14E	T. D. 2504	Dry

Drilling Operations in Oklahoma, Kansas and N. Texas Aug. 30, 1924

	Aug. 30——Week Ending——Aug. 23									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	10	9	66	3	88	14	8	64	3	89
Other Osage	6	11	49	24	90	11	10	59	27	107
Bristow-Cushing	11	19	108	35	173	5	22	117	35	179
North Oklahoma	10	10	62	58	140	13	9	55	62	139
South Oklahoma	11	18	106	70	205	13	13	121	70	217
Muskogee	..	15	32	40	87	..	11	35	36	82
Okmulgee-Bristow	..	50	90	73	213	1	54	93	70	218
Tonkawa	1	4	60	7	72	3	5	56	8	72
Wewoka-Cromwell	42	59	171	35	307	34	37	198	32	301
Total Oklahoma	91	195	744	345	1375	94	169	798	343	1404
KANSAS	33	73	130	113	349	42	73	133	102	350
NORTH TEXAS										
Eastland County	..	2	18	10	30	..	2	21	12	35
Stephens County	..	23	30	38	91	..	23	36	38	97
Texas Panhandle	..	6	20	18	44	..	6	20	18	44
Mexia District	..	16	34	16	66	..	18	36	16	70
E. Texas Wildcats	..	6	10	33	49	..	5	9	28	42
W. Texas Wildcats	..	49	105	113	267	..	45	126	103	274
Total N. Texas	..	102	217	228	547	..	99	248	215	562
GRAND TOTAL	124	370	1091	686	2271	136	341	1179	660	2316

ing moved in. Berry Petroleum Co. has locations for two wells in the SW¼ of 1-8-8, Dixie Oil Co. is preparing to drill on the NE¼ of 11-8-8 and Sinclair has a location in the SEc SW¼ NW¼ of 1-8-8.

Shaffer Oil & Refining Co. has 4 million feet of gas and a showing of oil in its wildcat in the SEc NW¼ of 30-12-11 in sand topped at 2840 feet.

R. D. Donnelly, Trustee, et al, appears to have opened a new Wilcox sand pool on the Hill farm in 17-14-10. The well is only two feet in sand topped at 3393 feet and has been producing around 225 barrels per day through 900 feet of open hole. This well is considered important in that it makes much of the area south of Slick look favorable for Wilcox production.

The Henry Oil Co. has a wildcat in the SWc NE¼ of 36-12-9 which topped sand at 3335 feet and has made several flows. This well got a showing of oil at 3140-60 feet.

Chandler, Kelly and Wrightsman have a small well of 45 gravity oil in the NEc SW¼ 1-21-5 near Pawnee. This well is another of the group of wildcats brought in during the week. It found the Mississippi lime at 3125 feet and topped the Wilcox sand at 3379 feet. The well is estimated to be good for 100 barrels per day when completed.

Kansas Operations

THE Coleman pool near Independence bids fair to bring that town back into the spotlight as a producing center again as well as being the home of the Prairie Oil & Gas Co. Three new wells have been completed in this field during the past week bringing the total to 6. Danciger and others No. 1 on the McGonigle farm extended the field a quarter of a mile south from the Red Bank's discovery in the SWc SE¼ 28-32-14. The Danciger well made 300 barrels natural from 2 p. m. to 11 a. m. and is estimated good for 1000 barrels per day. Red Bank's No. 1 Haines is to be put on the pump. The same company's No. 1 Good is now pumping 200 barrels per day.

Alcorn Oil Co.'s No. 1 Graham in the NEc NE¼ 9-33-3E northeast of the Rainbow bend field which was shut in swabbed 500 barrels in 12 hours but it has been impossible to make the well flow again.

New Refining Company Perfecting Plans

SHREVEPORT, Aug. 28.—With the organization of the Southern Oil & Refining Co., the headquarters of which will be at Houston, with branch offices at Shreveport, and other points, the grouping of another complete unit in the refining industry has been perfected.

W. G. Banks, of Shreveport, formerly head of the land department of the Atlas Oil Co., who more recently has been engaged in the refining business in the El Dorado district, has been named as president of the new company, while W. P. Hobby, ex-governor of Texas, has been elected treasurer. L. H. Gray, of El Dorado, is secretary.

The refining activities of the new organization are to be in charge of Col. E. L. DeCamp, a refining engineer from California, who has done much toward developing the process which will be used in its plants. In its directorate are to be found also the names of John H. Kirby, a wealthy lumberman, of Houston; A. W. Baird, a merchant, of Shreveport; and P. E. Murphy, a banker, of Junction City, Ark.

The Southern Oil & Refining Co. is expected to have, when pending negotiations have been finally completed, a total refining capacity of more than 6000 barrels a day in plants located at Oil City, La., El Dorado, Ark., and Houston, Tex.

The new company has acquired a 1000-barrel cracking plant at Oil City, formerly owned by C. Roussell and the Associated Refining Co., the operation of which is expected to be resumed next week. The grease and asphalt plant at Oil City formerly owned by the Union Oil & Pipe Line Co. also has been acquired; and its operation is expected to be resumed at once.

Pine Island heavy, Smackover, and Nevada county crudes are to be used. A particularly high grade product is expected to be obtained from the latter crude, which is said to possess unusually desirable qualities for the manufacture of lubricating oils.

In this connection, recent reports from Arkansas are to the effect that the Calumet Refining Co., of Chicago, also has become active in the acquisition of the 14-gravity oil produced in Nevada county, having purchased a large quantity from Smitherman & McDonald, of Shreveport, operators in that field.

Negotiations for the acquisition by the Southern Oil & Refining Co. of a 1500-barrel topping plant in the El Dorado district are now nearing completion. It is planned to enlarge and extend this latter plant by the addition of cracking units. Other negotiations not yet formally completed are expected to result in the incorporation in the new combination of a 3000-barrel cracking plant and lubricating refinery, located on the ship channel, at Houston.

The "California cracking Process" will be used in all the company's plants, having already been installed in the plant at Oil City, La., acquired from the Associated Refining Co. This process involves the cracking of oil under extreme heat while in the vapor phase.

One of its virtues, as claimed, is that emulsified oil can be introduced directly into the stills without first having been dehydrated; in fact, a small percentage of water or steam is a requisite of the process. The plant at Oil City was operated for a short time during the current year on oil produced in the Sarepta district, of Louisiana, where dehydration presents a most difficult problem.

It is said that the company will own or control filling stations in Louisiana and Arkansas having an average distribution totalling more than 150,000 gallons of gasoline, and lubricating oils in proportion, per month. When present plans are perfected, the company is expected to have within 30 days a total distribution of more than 300,000 gallons of gasoline per month.

Los Angeles Shipments Heavy In August

LOS ANGELES, Sept. 1.—According to the marine bureau of the Los Angeles Chamber of Commerce, 9,465,638 barrels of petroleum products were exported from this harbor during August. The bureau divides these shipments as follows:

Pacific domestic, 3,641,233 barrels; Atlantic domestic, 3,558,180 barrels; Pacific foreign, 1.301,411 barrels; Atlantic foreign, 964,814 barrels.

The shipments were made up of 5,226,625 barrels of crude, 2,940,579 barrels of fuel oil, 1,040,009 of gasoline, 177,475 barrels of kerosene, 78,536 barrels of Diesel oil, 2414 barrels of distillate.

SHREVEPORT, Sept. 1.—Cox No. 2 in Sec. 22 Cotton Valley was completed by Hude and Arnes yesterday afternoon as a dry gasser. The fact that this gasser is shallower than the Invincible's extension oil well strengthens further the theory of deeper drilling advanced.

Completions North-Central Texas District Week Ending August 30

WICHITA FALLS DISTRICT

Wichita County

Company	Well No.	Lease	Depth	Prod.
Magnolia Petroleum	7	Abernathy	1040	25
Bower, Bass & Dillard	5	Peeler	1660	110
Petroleum Producers	6	Maer	1660	60
Jack Baldwin	1	Fisher	1050	junked
Humble Oil & Ref	3	Burnett et al	1585	25

Archer County—North

Staley & Wynne	2	A. P. Nichols	1610	60
Sunshine State Oil & Ref	1	Reilly	2045	Aband.
Ray Featherstone Oil Corp	2	A. P. Nichols	1615	200
Texhoma-Staniforth	6	Kemp & Kempner	1490	75
Benninger et al	1	Perkins et al	1870	Aband.

Archer County—South

Shamrock Oil Corp	4	Goldsmith	1325	80
Shamrock Oil Corp	5	Campbell Bank	1340	110
Hobbs et al	3-A	Goldsmith	1370	Aband.
McGregor et al	4	Llewellyn et al	1400	75
Murchison & Fain	4	Goldsmith	1340	75
Clark & McGee	5	Scruggs	1340	60

Baylor County

Hapgood & Anderson	1	Turbeville	2240	Aband.

Clay County

Texland Prod. Co	1	Ashland	2000	Aband.
Blake & Diessel	1	Hansard	1350	Aband.

Montague County

Company	Well No.	Lease	Depth	Prod.
Texhoma Oil & Ref	1	Bouldin	1815	Aband.

GENERAL RANGER TERRITORY

Young County

Litchfield et al	1	Baldwin	1000	Aband.

Palo Pinto County

Owens & Burkett	2	Wheeler	3830	50

Stephens County

T. & P. Coal and Oil Co	1-B	Winston	2230	11 mi.ft.gas
Rochelle et al	3-A	Sweeney	3300	110 bbl., shot 180 qts.
Christie Bros	1	Gardenhire	2150	30

Eastland County

Pennock Oil Co	7	Parton	1840	10
Donley et al	1	Fox	1815	Aband.
Williamson et al	3	Fox	1190	55
Panhandle Ref	6	Webb	1220	Aband.
Bobo et al	1	Amis	3150	1 mi. ft. gas

Brown County

Mahlstadt Mook Oil Co	2	Gaines	1315	Aband.
Pope & Wilson	1	Baxter	1300	Aband.
Gump et al	1	Moore	1240	50
Moore et al	1	Teston	1086	3 mi. ft. gas

Reagan County

Texon Oil & Land Co	1	Group University	3027	2400

Completions In North Louisiana And Arkansas Week Ended August 28

LOUISIANA

Caddo Parish

Company	Well	Location	Depth	Yield
Dixie Oil Co	Robertshaw No. 14	14–21–10	2887	100
Mutual Oil Co	Raines No. 10	22–21–15	1625	10

Claiborne Parish

Arnett et al	Calhoun Estate No. 1	26–21–6	2990	dry aband.
Forrest Oil Co	Fields No. 1	22–19–5	2400	s.w.aband.

Bossier Parish—Bellevue

Bliss & Weatherbee	Fee F-3	23–19–11	350	s.w.aband.

De Soto Parish

J. V. Ulrey, trustee	Frost-Johnson No. 1	3–11–15	3001	dry aband.

Union Parish

J. F. Palmer	Templeton No. 1	18–23–1E	2235	s.w.aband.
Union Oil & Gas Co	Frost-Johnson No. 1	7–23–1E	2289	s.w.aband.

Morehouse Parish

Danciger Oil Co	Thompson No. 1	16–20–3E	2165	5 m.cu.ft. gas
Texas Oil Co	Grayland B-1	32–21–4E	2145	20 m.cu.ft. gas

Ouachita Parish

Palmer Corp	West Va. No. 2	3–18–5E	4090	s. w. aband.
Standard Carbon Co	Gayle No. 1	18–19–5E	2065	10 mi.cu.ft. gas

TEXAS

Panola County

Company	Well	Location	Depth	Yield
O. L. Hickman	Lawless No. 1	P.M.Mays HRS	1959	5 mi.cu.ft. gas
Byron E. Reed	Vincent No. 1	Anderson HRS	1920	15 m. cu.ft. gas

ARKANSAS

Stephens

Ohio Oil Co	Hall A-2	31–15–19	2185	15

Smackover

Atlantic Oil P. Co	Jeffers No. 4	25–15–17	2310	45
Gilliland Oil Co	Smith No. 3	36–15–17	2260	30
R. B. Nelson	Jeffers No. 3	26–15–17	2340	75
Gilliland Oil Co	McRae No. 4	30–15–16	2267	35
Leon et al	Patton No. 3	32–15–16	2262	35
Magnolia Pet. Co	Smith No. 6	31–15–16	2255	100
Queenwood Oil Corp	Snyder No. 4	34–15–15	2065	80
Ark. Fuel Oil Co	Dumas No. 1	29–16–15	2075	s.w.aband.
Bradley & Cazort	Miles No. 1	21–17–15	2545	s.w.aband.
J. W. Clark	Alphin No. 2	19–16–15	2120	60
Cross et al	Smith No. 3	13–16–16	2080	40
Keen & Woolf	Murphy No. 1	9–16–15	2150	junk aband
Leon et al	Berg No. 1	4–16–15	1975	junk aband
McFarland et al	Graves No. 1	3–16–15	2280	25 m.cu.ft. gas
Sun Co	Smith No. 3	1–16–17	2264	50

Completions Rocky Mountain District Week Ending August 23

WYOMING

Salt Creek Field

Company	Well No.	Description	Depth	Pod.
Mountain & Gulf	7-A	6–39–78	1965	66
Mountain & Gulf	9-A	6–39–78	2088	To be shot
Mountain & Gulf	A	13–40–79	2110	25
Mountain & Gulf	22	6–39–78	1262	147
Mountain & Gulf	34-A	11–40–79	2457	To be shot
Wyoming Associated	9-A	30–40–78	2010	To be shot
Wyoming Associated	19-A	14–40–79	2269	To be shot
Wyoming Associated	22-A	1–39–79	1816	To be shot
Wyoming Associated	13-AX	24–40–79	1656	To be shot
Wyoming Associated	19	14–40–79	1332	147
Wyoming Associated	18-A	24–40–79	1675	1900
Wyoming Associated	34-A	15–40–79	2440	To be shot
Midwest Oil	22	27–40–79	1420	215
Midwest Oil	18-A	27–40–79	2246	40
Salt Creek Consolidated	34-A	18–40–78	2528	60
Salt Creek Consolidated	30-AS	3–39–79	2544	To be shot
Mountain & Gulf	15-A	6–39–78	2218	To be shot
Mutual Oil		32–40–78	1550	200
Ohio Oil	17	1–39–79	2035	20
Ohio Oil Co	2 Tr.G	17–39–78	2825	225

Grass Creek

Company	Well No.	Description	Depth	Prod.
Ohio Oil	19-Wiley	18–46–98	3993	Not tested

Poison Spider

New York Oil	11	12–33–83		100

Eight Mile

Hatfield Oil	2		3745	Gas

COLORADO

Florence

Mutual Oil			1535	98

MONTANA

Kevin—Sunburst

Shoshone Oil	5	4–34–2		1400
Ferdig Syndicate	1	32–35–1	1535	20
Ohio Oil	9-Davey	34–36–2	1540	100
California Co	1 Sweeney	5–35–2	1470	50
Beardslee Synd	2-Bruins	10–35–2	1640	60
McGuire Synd	1	1–34–2	1472	40

Gulf Coastal, Texas Completions, Week Ending August 30

Company	Lease—Well	Field	Depth	Prod.
Gulf Production Co	Beaumont Pet. Co. State 26	Goose Creek	3590	50
Gulf Production Co	Beaumont Pet. Co. State 29	Goose Creek	3440	300
Southern Exploration Co	Wright 7	Goose Creek	1570	200
Larne Oil Co	Dannenbaum 1	Goose Creek	1250	Aband.
Humble Oil & Refining Co	Winfree 5	Orange	2890	50
Tillery Oil Co	State 2	Orange	2850	50
Republic Production Co	Dolbear 20	Hull	2050	200
Gulf Production Co	Phoenix 16	Hull	2840	200
Higgins Oil Co	Taylor 2	Hull	3000	100
Gulf Production Co	B. B. B. & C. 22	Saratoga	1350	15
The Texas Co	Fee 288	Sour Lake	2300	6
Campbell et al	Hodges 2	Batson	3530	Aband.

Hunter Visits Southwest

HOUSTON, Aug. 28. — Cravens Hunter of the producing department of The Texas Co., who several years ago was transferred from Houston to the New York offices at 17 Battery Place, has returned east after a tour of southwestern territory. On his return from Houston, he stopped in the north Louisiana and south Arkansas districts.

Invincible Well Extends Cotton Valley Over Mile To Southwest

By Special Correspondent

SHREVEPORT, Aug. 28

THE producing area of the Cotton Valley field was extended more than a mile southwest by the completion of an oil and gas well Aug. 27 in the Invincible Oil Co.'s No. 1 Lindsey, in the northeast corner of the northwest forty acres of Sect. 22-21-10.

The peculiar importance of this completion is not so much that it extends the field in a southwesterly direction, but rather that it indicates strongly that the gas-yielding territory on the crest and eastern, western, and southern slopes of the structure, formerly considered of doubtful value as regards oil production, may also produce oil. Heretofore, oil production on the Cotton Valley structure has been confined to a small area not exceeding 400 acres, in the north half of Sect. 14, in the northeast corner of Sect. 15, the northwest corner of Sect. 13, and along the south line of Sect. 11.

Completion of the Invincible's oil and gas well leaves little doubt that the entire structure will produce oil when fully developed. Indeed, the field's prospects have been changed overnight, as the completion, one after another, of six large dry gassers in the Southwest Extension had given rise to a widespread feeling of pessimism regarding the value of the structure.

The secret of the Southwest Extension, which required the drilling of seven wells to uncover, was a matter of depth. The gas wells had not been drilled into the oil-bearing levels.

The following comparison of sub-sea-level depths affords a very graphic illustration of this point. The Fortuna Oil Co.'s No. 1 Cox, near the center of Sect. 23, is chosen because it, apparently, is the highest well in the field, structurally, and because it is the first well completed in the area under dicussion. The Ohio Oil Co.'s No. 1 Crichton, in the northeast corner of the southeast quarter of Sect. 21, was the next gas well to extend the field. The Invincible Oil Co.'s No. 1 Crichton, which offsets the Ohio's well, is the deepest of the six gas wells; but it produces no oil whatever. Next in order is that company's Lindsey well, the deepest of the lot, which is variously estimated to be capable of producing 500, 1000, and up to 5000 barrels of oil per day. For comparison, the Humble Oil & Refining Co.'s No. 2 Babb, one of the deepest oil wells on the northern slope of the structure, in Sect. 14, is added. It makes no water.

	Fortuna's Cox 1	Ohio's Crichton 1	Invincible's Crichton 1	Invincible's Lindsey 1	Humble's Babb 2
Total Depth	2,500	2,531	2,550	2,535	2,568
Elevation	198	226	222	189	218
Total Depth Below Sea-level	2,302	2,305	2,328	2,346	2,350

Thus, it will be observed that the successful test is 18 feet deeper than the deepest of adjacent gas wells and four feet shallower than a representative oil and gas well in the older portion of the field, in Sect. 14. It was drilled in by Bob Weaver, driller, under the direction of C. C. Hummer, drilling superintendent.

The extension oil well has not been open more than 25 minutes altogether; so it is difficult to form an estimate of its potential production. Indeed, one experienced observer stated that, in his opinion, it might produce anywhere from 500 to 5000 barrels of oil, along with about 20 million cubic feet of gas per day. When it came in yesterday afternoon, it made very brief heads and a heavy spray of oil, similar to older wells of the same character in Sect. 14, which averaged more than 500 barrels of oil per day. When re-opened this morning, it made a solid six-inch stream of oil for three minutes, followed by a heavier spray of oil. It is now shut in to await the excavation of earthen storage.

The Cotton Valley field, which is as yet wholly undefined on the south and southeast, may, conceivably, embrace a total of more than 10,000 acres potentially capable, in view of the success of the Invincible's test, of producing oil. However, very conservative contouring, based on the meager data now available, indicates a lesser figure. A line drawn through the Invincible Oil Co.'s No. 1 Hodges, in the southwest corner of Sect. 11,—one of the lowest wells in the field, structurally, and which yields a large percentage of salt water,—and around the structure with due regard to structural slopes as revealed or indicated by logs of wells now completed, will embrace a total of approximately 7355 acres. Of this total, more than 73 per cent is owned by major companies, as follows:

Elated at the success of their organization in extending the Cotton Valley Field. From left to right: P. T. Mize, General Superintendent of Production for the Louisiana Oil Refining Corp. and associated companies, including the Invincible Oil Co.; E. M. Jones, Production Foreman for Louisiana Oil Refining Corp., Haynesville field; and J. E. Lovell, Production Foreman for the Invincible Oil Co., Cotton Valley field.

Humble Oil & Refining Co.	2,045	
Ohio Oil Co.	1,690	
Gulf Refining Co.	610	
Invincible Oil Co.	480	
Fortuna Oil Co.	350	
Standard Oil Co.	170	
Atlantic Oil Producing Co.	40	5,385
Oil Fields Gas Co.	560	
Miscellaneous	1,410	1,970
Total		7,355

Were a larger percentage of small operators represented in the field, one might safely predict that the latest extension would precipitate a drilling boom. But the majority of the foregoing companies were also neighbors at Haynesville, where they learned a valuable lesson in co-operation in the orderly development and regular spacing of that field. This being true, and the market situation being as it is, the campaign may be retarded to a certain extent. Two pipe lines, two loading racks, and several thousand barrels of steel and earthen storage are available to care for such flush production as may be developed. Cotton Valley crude is now worth 80 cents per barrel, posted by the Standard Oil Co. of Indiana. The Texas Pipe Line Co., whose line also traverses the field, is not purchasing oil there at present.

Plan More Intensive Drilling Operations For Wellington Dome

By Special Correspondent
DENVER, Aug. 29.

TWO of the new fields in Colorado and New Mexico last week started commercial shipments of crude for the first time. These were the Moffat dome in Colorado and Hogback dome in New Mexico. The event was properly celebrated by the people in the towns through which the trains passed.

Drilling operations in Colorado showed a strike of 2,000,000 cubic feet of gas in a Midwest Refining Co. wildcat at Berthoud and a showing of oil in the same company's test on the Iles structure in Moffat county. The old Florence field came to the front with another completion in the shale and operations on the Moffat dome are again at an interesting stage.

The Union Oil Co. of California's Whitaker well on the Fort Collins dome made 800 barrels a day of seepage oil coming from between casings and tankage is being erected preliminary to a test. The same company's gasser, Mitchell No. 1, on the Wellington dome, is flowing wide open and making around 80,000,000 cubic feet. Preparations are proceeding to shut it in. That company has abandoned its plan for a community lease and has ordered five rigs for drilling on its several structures.

Salt Creek had one completion with an initial production of 1900 barrels and several fairly good wells. The Bell Springs strike of the Kasoming Oil Co. developed water in the bottom of the sand.

The Crescent Eagle well in Utah has about 1200 feet of fluid in the hole of which 800 feet is estimated to be oil. Ohio Oil Co. has favorable showings in its Coalville test in that state. Montana had a 1,400-barrel well in the Kevin-Sunburst field.

Colorado

The Union Oil Co. of California's discovery well on the Fort Collins dome, in Larimer county, Whitaker No. 1 on 30-8-68, which came in as a producer at 4475 feet on August 7, is still shut in awaiting erection of tankage before being completed. No tests have yet been made and estimates of its capacity are not reliable.

The company has installed twelve 250-barrel tanks at the well site and has purchased an 80-acre tract half a mile to the north for a tank farm where it is erecting eight 5,000-barrel tanks. It may be several weeks yet before a test can be made, on account of conditions at the well. The oil is making its way up outside the 6¼-inch casing and is now flowing between the various strings up to the 12½-inch. This means the well may have to be opened and the various strings re-cemented in order to make a good formation shut-off.

Last week a two-inch pipe was connected with the valve, closing the openings between the 10 and 12-inch casings and the oil was allowed to flow into the tanks. This flow amounted to about 800 barrels a day of seepage oil from between the 10 and 12-inch casings. The pipe was filled to capacity, but the oil sputtered as it went into the tanks in such a manner as to indicate considerable gas pressure. The tankage at the well is now full of this seepage oil which is again going into the sump. On Saturday the valve on the 6-inch pipe was opened for 1½ hours to do some cementing and the oil is said to have flowed steadiy at full capacity of the pipe.

C. H. Sherman, manager of field operations, states there is no doubt but that the bottom of the hole is in a sand but that it has not been definitely identified. It was held by some that the well had not reached the sand when it came in. The Union company has practically all the acreage on the dome. Its leases cover 5,212 acres of which 2,129 are within the closing contour.

Gas Fire Extinguished

Ten miles to the north of the Whitaker well is located the Mitchell No. 1 on 6-9-68, on the Wellington dome, which blew in as an immense gasser at 4216 feet on July 19 and caught fire a few days later. The fire was suddenly extinguished last week when the men were attempting to blow off the valves and fittings. The well has since been flowing wide open and is estimated to be making better than 80,000,000 cubic feet of gas a day. It is located one mile south of the discovery well which came in for 80,000,000 feet of gas on November 11.

When an examination of the well was possible, it was found that the casing was in good shape and evenly cut off by the explosion. Work started at once cleaning out the debris and cementing the cellar, while a big gate valve was being made in Denver. This valve is now on the ground and is being put into position. Neither this well nor the discovery well had reached the sand when they blew in.

Contrary to reports, the Mitchell well is not making any large quantities of oil with the gas at present. The landscape shows some signs of saturation for half a mile around and the vapor is a dark creamy color, indicating that there is some oil with the gas but in small quantities. It was found after the fire was out in the Mitchell well that the valve had been about three-fourths closed when the gas was ignited and in that condition the pressure was sufficient to hold back the oil.

Orders Five More Rigs

The Union company has ordered 5 additional rigs for additional wells on the Fort Collins and Wellington domes, but where they will be located has not yet been determined. The company has been endeavoring for several months to bring all the acreage under lease on the Wellington, Fort Collins and Douglas Lake domes into single community leases which would permit drilling to proceed along geological instead of lease lines so the oil which otherwise might migrate into the gas sands might be conserved. But the plan had apparently failed. However, the business men of that district have taken it up and are endeavoring to put it through, but with little prospects of success. If they fail, additional drilling will be done in accordance with lease requirements.

Berthoud Dome Showing

Twenty-four miles south of the Fort Collins operation another interesting development took place the past week when the Midwest Refining Co., drilling in its State No. 1 on 16-4-69, Berthoud dome, Larimer county, 3 miles west of the town of Berthoud, encountered a flow of 2,000,000 cubic feet of gas in the shale at 2965 feet. The significance of the strike is not yet apparent as it was not made in a sand and was above the Frontier (Wall Creek) which is expected at between 3300 and 3400 feet.

The Frontier has never proven productive in Colorado, but this showing in close proximity to it is held to be very encouraging. The objective sand is the Muddy in the Dakota series, expected at about 500 feet under the Frontier. The boilers were moved back following the strike and a control head installed. The gas was mudded off after the hole had been underreamed to carry down the 10-inch casing which was cemented. No new hole will be made for about two weeks. This test went through the Hygiene sand at around 800 feet.

Twenty miles to the southwest of the Berthoud test is the test being drilled by the Ohio Oil Co. on 28-2-70, Haystack dome, Boulder county, which has been delayed for the past two months at 3200

feet fighting water trouble but now is again making progress.

Showing on Iles Structure

Important developments are pending on the Iles structure in northwestern Colorado, 5 miles southwest of the Moffat dome, in the Midwest Refining Co. French No. 1 on 22-4-92. This hole encountered the Frontier sand at 2275 feet, in which there was a trace of oil and some water. The Dakota, the producing horizon on the Moffat dome, was expected at 2653 feet. At 2545 feet, through about 100 feet of caving, the hole made two flows of oil amounting to about 50 barrels. The flows appeared to come from agitation more than by heads and the company was convinced the oil was coming from the shale. The hole was cleaned and drilled to 2560 feet and the 6¼-inch casing run with the intentions of carrying that size down to the top of the sand. The oil is of 36 gravity and the pressure was sufficient to make about two flows a day. The drill is now believed to be on top of the sand and a completion is expected at almost any time.

Important developments are also pending on the Moffat dome, 5 miles northeast of the Iles dome. The Texas-Transcontinental discovery well on 33-5-91, which was put on production on July 22 and which started off at 4,595 barrels a day, is now making less than 2,000 barrels a day but the quantity of water showing with the oil has decreased to about 9 per cent. The Texas Co. Freeman No. 1 on 28-5-91, less than a mile north of the discovery, is down 4014 feet, fishing for a joint of 8¼-inch casing.

The discovery well came in at 3805 feet, so it is apparent the structure is dipping rapidly towards the Freeman well and if this is a producer it is believed it will be an edge well. The Texas-Transcontinental's Weyand No. 1, between the discovery and the Freeman well and on 33-5-91, is showing up much better and is drilling at 3784 feet with a slight trace of oil in the hole and almost on top of the sand. The other wells on this structure are not yet close enough to the sand to be of special interest.

Nineteen wildcats are now drilling in Moffat county. The last to get started is the T. S. Hogan state No. 1 on 16-5-94, on the West Axial dome, 20 miles west of the Moffat dome. The Standard Oil Co. of California is drilling below 3,000 feet on the Axial dome, 24-4-93, a lobe of the Iles structure, but nothing of consequence has yet shown up. The Ohio Oil Co. is also getting started on the Little Snake river dome in the northeastern corner of the county near the Wyoming boundary.

A new operation is getting under way near the town of Delta, in Delta county, by the Mid-Colorado Oil Co., a subsidiary of the Transcontinental Oil Co. The Dakota sand is expected at around 1500 feet. This is the first test to be started in that county which is 125 miles south of the Moffat county operations.

Sun Company to Drill

The Sun Oil Co. is the latest to enter the Colorado fields and will drill a test jointly with the Midwest Refining Co. northwest of Grand Junction, in Mesa county, on what is called the Carbonera structure by some of the companies and the Garmesa by others. A definite name has not yet been chosen. The district is just a few miles from the Utah line. Location has not yet been announced. The Sun company will be in charge of the drilling. The Midwest is now putting down two validating holes.

Pueblo county now has 7 wildcats under way. The most important of these is a new location by the Ohio Oil Co. on 25-21-64, about 5 miles southeast of the city of Pueblo.

The Mutual Oil Co., through a subsidiary, completed a well in the Florence field in Fremont county this week which is pumping at the rate of 4 barrels an hour and is estimated good for 98 barrels. The oil came in at 1535 feet. The well is located a quarter of a mile from a producer completed a few weeks ago at 2890 feet and making 85 barrels a day. Both wells, like all other wells in that field, are producing from the shale with no signs of a sand. These completions have aroused considerable interest and were reported to be an extension of that field. However, they do not prove up any new territory. They are in the extreme southern end of the field where the average has been about one producer out of each 4 or 5 wells drilled and operations were accordingly slow.

Wyoming

Salt Creek showed an increase in the number of completions last week but there were no outstanding features. The largest well had an initial production of 1900 barrels and the remainder with a few exceptions, were small wells or not tested. The shooting of wells is steadily on the increase. Some of the best completions are shale wells but these do not hold up long and when the oil is exhausted they are carried on down.

The wildcats disclose nothing of special importance. The Kasoming well on 6-23-88, Bell Springs dome, in Carbon county, which came in with a flow of 15,000,000 cubic feet of gas at 1960 feet, developed water and is being worked over. It is believed the water is coming from the bottom of the sand.

The Midwest Refining Co. has at last succeeding in overcoming casing trouble at its test on the Notches dome, on 10-37-85, southwest of the Salt Creek field and northwest of Casper, on which it has been working for several months. This well is the discovery which came in last year with a production of about 400 barrels of black oil but which it could not put on production on account of a collapsed 10-inch casing. The casing has finally been wedged so the 8-inch can be run and it is expected the well will be on production soon.

The Producers & Refiners test on 20-31-81, Simpson ridge, Carbon county, which had a small production at 600 feet, is now drilling at 5471 feet, the deepest hole ever made in Wyoming.

Utah

The Crescent Eagle Oil Co., at Thompson station, on the Denver & Rio Grande Western in north central Utah, showed an increase in oil and gas, which has been persistent in the shale for some time, at 3120 feet and at 3150 feet the pressure was sufficient to lift the tools. It was impossible to lower the tools for a while, and then some water came in with the oil and the fluid filled the hole about 1200 feet. It is estimated that 700 to 800 feet of the fluid is oil and remainder water. The oil is amber color and of high gravity. Trouble with the sand line has hindered cleaning out and it not yet apparent whether the strike is of commercial value. This well has been drilling for several years and for the past 1000 feet has been showing oil and gas almost all the way in the shale.

Los Angeles Shipments Are Climbing

By Special Correspondent

LOS ANGELES, Aug. 23.—Petroleum exports from this harbor during the week ending today hit another high mark, totaling 2,010,040 barrels, a daily average of 287,000 barrels. The shipments were handled by 27 tankers, 17 carrying crude, one taking kerosene and nine hauling fuel oil. Ten loads went to Pacific coast ports, seven to the Atlantic seaboard, and 10 for foreign ports. The shipments were as follows:

Aug. 17

W. S. Miller to Richmond, 73,661 barrels crude for Standard Oil Co.
W. S. Porter to Seattle, 52,875 barrels crude for Standard Oil Co.
Shinicoku to Tokuyama, 75,000 barrels fuel for Jap navy.
Agwibay to New York, 92,331 barrels crude for Tidewater Oil Co.

Aug. 18

Emedio to Portland, 60,049 barrels fuel for General Petroleum Corp.
Balboa to Balboa, 70,425 barrels crude for Shell Co.
Cerro Azul to New York, 83,100 barrels crude for Pan-American Petroleum Co.

Aug. 19

D. G. Scofielf to Richmond, 69,155 barrels fuel for Standard Oil Co.
Richmond to Seattle, 62,855 barrels fuel for Standard Oil Co.
Utacarbon to Martinez, 77,057 barrels crude for Union Oil Co.
Lompoc to Vancouver, 83,420 barrels fuel for Shell Co.
Halo to Boston, 78,000 barrels crude for City Service Co.

Aug. 20

Lebec to Seattle, 70,000 barrels fuel for General Petroleum Corp.
Vancolite to Antofogasta, 96,040 barrels fuel for Shell Co.
El Cicuta to Buckley Bay, 14,000 barrels fuel for Shell Co.
Sunoil to Bayonne, 75,000 barrels crude for Sun Oil Co.
San Fernando to Tampico, 121,605 barrels crude for Shell Co.
Baltic to Montreal, 96,960 barrels crude for Tankers, Ltd.

Aug. 21

W. S. Miller to Richmond, 73,661 barrels crude for Standard Oil Co.
Dubrico to Richmond, 63,825 barrels crude for Standard Oil Co.
S. C. T. Dodd to Astoria, 66,610 barrels crude for Standard Oil Co.
La Placentia to Balboa, 76,661 barrels crude for Union Oil Co.
Ranella to Shanghai, 50,580 barrels kerosene for Standard Oil Co.
Cecil County to New York, 70,170 barrels crude for Standard Oil Co.

Aug. 22

Algonquin to Shanghai, 67,125 barrels fuel for Standard Oil Co.
David McKelvey to New York, 75,000 barrels crude for Standard Oil Co.
Walter Jennings to New York, 115,875 barrels crude for Standard Oil Co.

Big Camps Necessary In Developing Reagan County Fields

By Paul Wagner

STAFF REPRESENTATIVE

Part 2

The fact that the general area for miles in any direction from Reagan county production consists of what are truly termed broad, open places makes for a certainty that any development approximating the general scope of the earlier Ranger territory will call for the establishment of great camps from which the interested companies will operate.

San Angelo, in northwestern Tom Green county and roughly 95 miles away from present production, is the only sizeable town in the district. The productive and prospective areas are served entirely by a single railroad, the Kansas City, Mexico & Orient, which for a long time has been in receivership.

This railroad is immediately adjacent to the present Santa Rita production. The story is told in San Angelo but not vouched for that when it was decided originally to make the test which discovered the Big Lake field, the Texon Land & Development Co., since renamed the Texon Oil & Land Co., visualized its location at a point somewhat westward from the "discovery" well.

When the train carrying its equipment reached the point now known as Texon Switch, so the story goes, it broke down; and the Texon interests unloaded the equipment there. Partly because of the railroad wreck and partly because it was considered desirable to keep down transportation expense the location stake was driven alongside the railroad. As pretty generally known, the "discovery" well was completed May 28, 1923, as a rather indifferent producer but sufficiently important to point the way to the development that has gone ahead since.

One Railroad in County

The Kansas City, Mexico & Orient railroad is the only one penetrating the county. The same statement applies to Irion county on the east, Upton on the west and the greater part of Pecos county, on the southwest. Crockett county, on the south, where even larger blocks of acreage are held by major operators than in Reagan county, has no railroad.

With the development of the Big Lake Oil Co. production on 16 sections taken over by it out of the original Texon Oil & Land Co. block, operations began to be carried on through a camp fitted up at the railroad switch adjacent to original wells, which switch is called Texon.

About four and a half miles due east of Texon, an oil field town known as Best is now materializing. Best is nearer to that part of the field that is indicated to be higher structurally and, therefore, more important for production; hence the fact that it is showing an early indication of being the important field town on the K.C.M.O. railroad.

Already the McBurnett Hotel Co., which operates the St. Angelus at San Angelo, the Brady at Brady and the Landon at San Angelo, has constructed a 60-room hotel at Best. It is of stucco construction and creates an atmosphere of magnificence with its background of the wide, open places of the bald, bare basin surrounding.

At Best, there also are now a few wooden shacks that house small stores and eating places, a few tents that are typical oil country "rag towns" and an occasional tent used for sleeping quarters.

Oil Well Opens Store

The Oil Well Supply Co. has transferred R. N. Bancroft, formerly store manager at Graham, Young county, to Best, where a small store has been opened. When the writer visited the field the other day, Mr. Bancroft was entertaining R. E. Lee, out of the Fort Worth office, and they were making plans for extending the stock to be carried at Best in line with such requirements as the future would show.

J. D. Blain, who covers north and west Texas territory for the Parkersburg Rig & Reel Co., out of Wichita Falls, was in the territory with the prospect that he would install warehouse and service immediately at Best, this company's store to be in charge of a local representative soon to be transferred into the territory.

Other supply companies said to have filed applications for warehouse sites with the Kansas City, Mexico & Orient railroad at Best include the Continental Supply Co., the Frick-Reid Supply Co., and the Wagner Supply Co., the latter of Fort Worth. J. Ray McDermott & Co., who had the rig building contract for the United North & South Oil Co., at Luling, has one million feet of material in transit and is opening yards at Best.

The townsite of Best, where a sale of lots was held within the last two weeks, is on University lands and the purchases are on a lease basis rather than being outright buys of fee simple property. Warehouse sites and business locations are obtained through the railroad on the basis of 5 year leases.

Lots for dwelling purposes were included in the sale mentioned; some of them, it is learned, falling into the hands of speculators whereas it was intended insofar as possible to keep down that sort of thing.

Whether at Best or Texon, or elsewhere in the general region served by the railroad, it will be necessary as development is extended beyond the area now productive to install company camps and warehouses to take care of the field personnel and the equipment necessary to go ahead with operations.

The water problem is another with which operators will have to contend. Very little water is available at the surface for drilling operations. It is possible to get it at a depth of about 600 feet; but this water is high in gypsum content and boiler compound in quantity is necessary to make it usable.

The possibility exists of solving the water problem in a more satisfactory manner after the region has shown its-

Lay Of The Land At Big Lake

Some of the difficulties that will attend the intensive development of the Big Lake territory in Reagan county, Tex., are pointed out in the accompanying article, which is the second part of the article published last week in which Mr. Wagner described the opening and the layout of this newest pool.

This article describes in detail the nature of the country, the lack of accommodations and facilities and the problems that will confront the companies in transporting material for the development of their properties.

It also tells how the supply companies are beginning to open branch stores in this out of the way district and putting themselves in readiness to furnish the supplies that drilling in a new field always call for.

Another interesting phase of the article is the description of the lay of the land and the holders of the acreage immediately surrounding the producing wells.—Editor.

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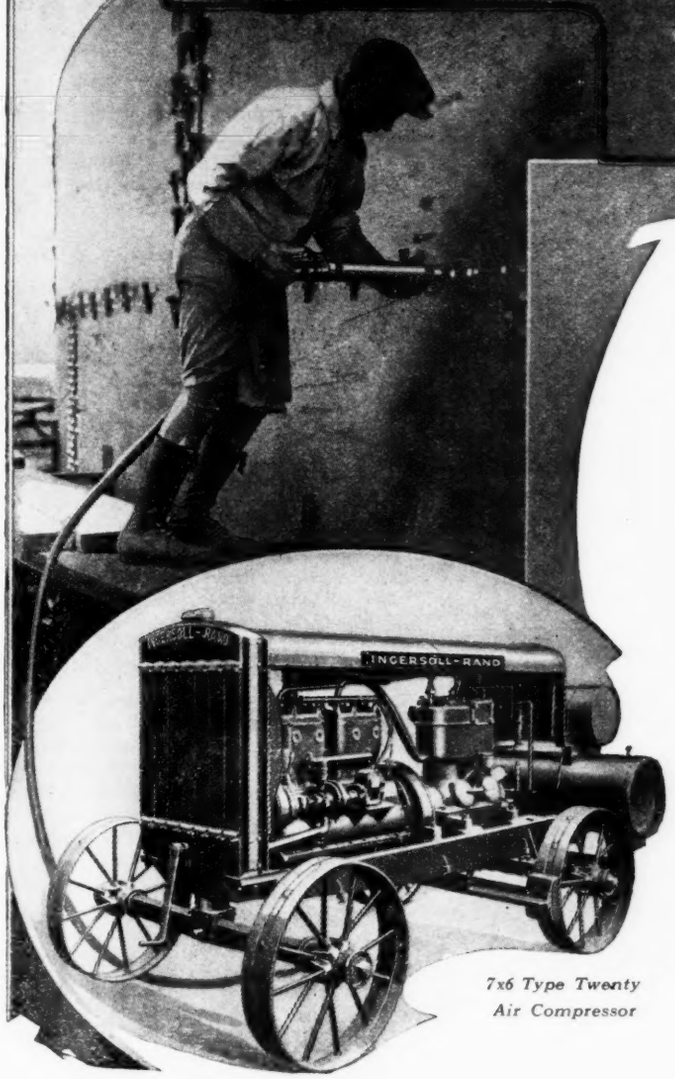

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self to be of the oil producing scope necessary to warrant the installation of electrical drilling equipment. Such a possibility has been already discussed. While it is a possibility now ripe for study, it is yet too early for the project to be definitely undertaken.

In the general Ranger territory, the Oil Belt Power Co. is supplying power for many field uses, as detailed in an article in National Petroleum News some time ago. Although the distance from the source of this power to Reagan county development is more than 200 miles it would not be impossible to build "high lines" that distance; or, if for any reason this should not be considered feasible, then such a power plant might be constructed at or near San Angelo.

With the exception of the No. 10 Santa Rita well of the Big Lake Oil Co., all the Reagan county completions have been cable tool tests. No. 10 Santa Rita was drilled with a rotary outfit, the contractor being J. D. Waide, of Mexia. As No. 10 was one of the three best wells completed in the Santa Rita development it may be considered that rotary drilling operations in this region are satisfactory, notwithstanding that all the other wells have been drilled with standard equipment.

Steel derricks sold by the Lee C. Moore Co. were used on Nos. 4, 6 and 8 Santa Rita wells of the Big Lake Oil Co., and six are said to have been ordered by the Texon Oil & Land Co. for use in drilling a half dozen locations on its University Lands acreage.

Cable tool drilling in Big Lake field requires about 90 days for the completion of a well, but under rotary practice this probably can be cut down to roughly 50 days. The average cost of completing wells under conditions of regu-

Who's Who In Companies Operating In Reagan County

THE corporate status of the two companies interested in development of the known pool in Reagan county is not generally understood. It is for the purpose of clarifying misinformation in this regard and setting the record straight that these paragraphs are written.

Texon Oil & Land Co., which brought in the "discovery" well and sold it with 16 sections of University lands to the Big Lake Oil Co., is headed by Haymon Krupp, El Paso merchant, as president. Frank T. Pickrell, formerly in the soft drink business in El Paso and later more or less active in the Ranger excitement, is vice-president and general manager. John M. Wyatt is second vice-president.

Headquarters of this originally $2,000,000 Delaware corporation, operating under Texas permit, are at El Paso, but a field office is maintained at the town of Big Lake in Reagan county. Stock issued is on a basis of $1 par and capitalization is now $10,000,000 with 2,000,000 shares issued.

Big Lake Oil Co., popularly understood to be an offshoot of the Transcontinental Oil Co. of Pittsburgh, is said by officers of the Big Lake to have interested in it individuals connected with both the Transcontinental and the Arkansas Fuel Oil Co. The latter is the company formed to take over the oil properties formerly held by the Arkansas Natural Gas Co. Neither the Transcontinental nor the Arkansas Fuel Oil Co., as such, are identified with the Big Lake's operations.

A holding company, known as the Plymouth Oil Co., with headquarters at Pittsburgh, was formed to distribute the varying interests in the Big Lake, it is said, the latter being strictly an operating interest. Levi Smith, of Pittsburgh, is president of the Big Lake. M. R. Williams, who makes headquarters at San Angelo and who formerly was in South America, is secretary-treasurer. Frank Pickrell, of the Texon Oil & Land Co., is a vice-president. W. L. Karnes, formerly with the Arkansas Fuel Oil Co., is general manager of field operations.

Operate From San Angelo

San Angelo is being made the headquarters of most of the leasing and geological work carried on. For convenience the term Reagan territory is used to include whatever activity is going ahead in adjoining counties, such as Crockett and Upton on the south-southwest and Sterling and Glasscock on the north-northeast.

Empire Gas & Fuel Co. has been represented in the territory by C. L. Wray and V. E. Cottingham, geologists. Ray Farrier has been identified with the C. J. Wrightsman interests, of Tulsa, coming into the territory from time to time from north Texas.

R. A. Matter, of the land department of the Humble Oil & Refining Co., at Houston, spent some time in the territory recently, returning to Houston after a conference at the town of Big Lake who came off his vacation, which was being spent at Alpine, to discuss important conditions having to do with the company's operations.

F. W. Mesmer, of the land department of the Mid-Kansas Oil & Gas Co., is working out of San Angelo. Charles Hitt, representing the Transcontinental is doing land department work in the region. Harry Meredith has been looking over the territory for the Atlantic Oil Producing Co., whose operating headquarters at Dallas are headed by E H. Blum as general manager.

James A. Birmingham is carrying on land department work for the Simms Oil Co., Dallas, and its geological activities are by Thornton Davis, who was with the Sinclair interests in Angola, Africa, and J. M. Wilson. Magnolia Petroleum Co.'s activities have been handled through the land and scouting office it maintains at San Antonio, in charge of I. Lee Tilden.

J. M. Armstrong, working out of the Dallas office of the Roxana Petroleum Corp., is in charge of a geological party which includes also Henry Conkling, a brother of Richard A. Conkling, formerly chief geologist of the Roxana. Dr. Von Holst Pellekaan, head of the geological forces of the Royal Dutch-Shell interests in America, has also been on the ground, since returning to Dallas. D. H. Larkin is representing the Roxana's land department.

Marland Oil Co. of Texas, with Dallas headquarters, has Messrs. Herring, Clyde Jackson and C. E. Collins, of its geological staff, in the region. These men are working out of Sterling City, in Sterling county. E. S. Moncrief, of Dallas, vice-president, has also been on the ground.

James V. Schilling, of San Antonio, representing the Dixie Oil Co., under which corporate name the Standard Oil Co. of Indiana operates in Texas, was a San Angelo visitor last week, accompanied by Mrs. Schilling on an automobile tour.

Gulf Moves Zone Office

P. M. Buchanan, formerly of Wichita Falls, has moved the Gulf Production Co.'s zone office from Sweetwater to San Angelo and has been installed as zone agent. He works through the Fort Worth office, where F. J. Adams became agent when Vice-President W. B. Pyron was transferred to Houston about the first of the year. Messrs. Pyron and Adams visited the field about 10 days ago, accompanied by Underwood Nazro, of Houston, second vice-president of the Gulf interests.

The Gulf's geological staff in the territory, working under Ernest Closeway of Fort Worth, are Oliver Harper, Harry Aid and Bernard Ulrich. J. M. Tinkerly, of Fort Worth, has been spending much of his time in the region, representing the land department.

Standard Oil Co. (California), under the corporate style of the California Co., operates out of Colorado City, Mitchell county. James M. Charlton, whom none has ever known in the west Texas territory as other than "Jimmy," makes the region southwest of San Angelo in his car. The Texas Co. handles this territory under its Cisco office, where D. O. Bayless is in charge of the land and C. L. Renaud the geological activities.

Texas Pacific Coal & Oil Co.'s activities are handled through Fort Worth headquarters. Bert Watson, field superintendent, drilled the hole put down on its large block in the southeastern part of Reagan county which was abandoned as a failure.

Other recent visitors to the field were Captain J. F. Lucey, of Houston; E. L. Smith and J. K. Hughes, of the interests at Mexia that bear their names; Joseph M. Weaver, an official of the States Oil Corp., at Eastland; Jim Gresham, attorney and oil operator of Eastland, accompanied by Judge Joe Jones, of the Eastland county court at law, and Abner S. Werblin, who registers from 42 Broadway, New York City, and who is running two or three rigs regularly in the general Ranger territory.

lar development ahead is estimated at $22,000 to $25,000 each, probably running slightly higher at the present stage of operations.

In the northeast corner of Terrell county, Sinclair Oil & Gas Co. has 13,600 acres south of old Fort Lancaster. Down the Pecos river, southeast of Fort Lancaster, the Tidal Oil Co., the Sun Oil Co., tnd The Texas Co. have river survey sections totalling about 12,000 acres together. Magnolia Petroleum Co. has a large block adjoining on the east.

To the northward, in Crockett county, 16 sections cut out of block 29, University lands, are held by the E. T. Ball interests of California; 12 sections of fee lands, adjoining block 29 on the northwest, are owned by R. C. Chambers, of Coleman, Tex.

Northeast of the Transcontinental's Pecos river block, the Carteret Oil Co. (Ladd & Hannon) holds about 70 sections on the Crockett county side.

Transcontinental holds a drilling block in block HH, G. C. & S. F. railroad survey, composed originally of about 30 sections, part of which was sold to the California Co., and others. A well is being drilled on this block, in the southwest quarter of Sec. 20, which at last report was in limestone formation at 3312 feet. This test is being drilled by the Mid-Kansas Oil & Gas Co., under which name Ohio Oil Co. operates in the southwest.

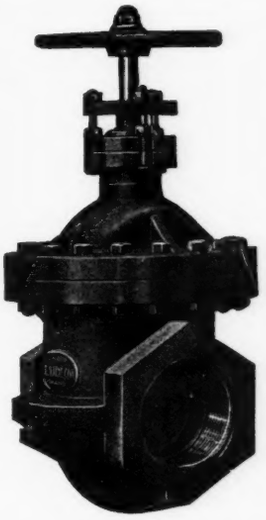
A 12-section block lying to the north of this Transcontinental acreage and in block 13, University lands, is owned by the California Co. North of the Carteret and in between the California-Transcontinental blocks and the Shannon ranch stuff of the Crockett Drilling Syndicate, some acreage remains open. The Crockett Drilling Syndicate holds thousands of acres, some of which has been sold off in five and 10-acre leases in California and elsewhere at fancy prices.

The California Co. also holds 12 sections in block 7, University lands, near the middle of the north line of Crockett county. Directly south, and adjoining it, drilling block is held by the World Oil Association, on Sec. 2, block BB-2, B. S. & F. survey. Sinclair Oil & Gas Co. has secs. 1, 3, 7 and 9, block A, adjoining the World stuff.

Adjoining this to the southwest is the Shannon ranch, where the Crockett Drilling Syndicate's dry hole was drilled to total depth of 4270 feet. East of this, in block BB, E. L. & R. R. Co. survey the Magnolia has 11 sections. South of this is the J. S. Todd ranch of 75,000 or more acres held by California parties associated with the Crockett Drilling Syndicate.

In Upton county, to the northwest of Crockett and the west of Reagan counties, The Texas Co., Marland Oil Co., of Texas, and the Dixie Oil Co. have drilling blocks. The Texas Co.'s holdings include secs. 54, 55, 56, 58, 60, 62, 68, block 35; and secs. 18, 19, 22, block 31. Northeast of The Texas Co., Marland has 14 sections adjoining it. Sun Oil Co. has protection, adjoining Marland.

No Guess Work



When you buy LUDLOW DOUBLE GATE VALVES you do not have to wonder about the kind of valve service you will get.

Through years and years of successful service LUDLOW VALVES have established a reputation for dependability that guarantees their performance.

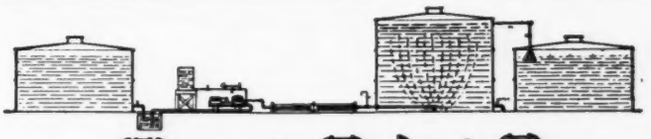
A post card to our nearest office brings prices.

The Ludlow Valve Mfg. Co.

(Established 1866)

Factory: Troy, N. Y.

Branch Offices: Kansas City, Mo.; Chicago, Ill.; Pittsburgh, Pa.; Boston, Mass.



Tret-O-lite

Reg. U. S. Pat. Off.

PROCESS PATENTED. The Barnickel processes for treatment of cut oil and other petroleum emulsions by the use of chemical agents are protected by valid process patents issued by the United States and foreign countries.

The purchaser of TRET-O-LITE is licensed to practice the Barnickel processes to the extent permitted by the quantity of TRET-O-LITE purchased. He is not licensed to use any other chemical covered by the Barnickel patents, either alone or with TRET-O-LITE.

WM. S. BARNICKEL & CO. **St. Louis, Mo.**

TRANSIT PUMPS

Standard

PIPE LINE — REFINERY — FIELD

Pumps

National Transit Pump & Machine Co.

OIL CITY, PA.

District Offices: **New York, Philadelphia, Tulsa, Cleveland, Pittsburgh Houston and Denver.**

DAVID DONOGHUE
Geologist and Engineer
Appraisals and Geological Reports
West Building, Houston, Texas

W. L. GOMORY
Chemical Engineer
Consulting Petroleum Technologist
Inventor Gomory Cracking Process
Licenses Solicited
Refinery Design
Peoples Gas Bldg. - Chicago

Professional Card Directory

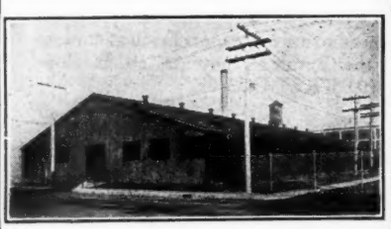
Professional advertising keeps your name constantly before the industry you are engaged in. When the readers of *National Petroleum News* want professional services they will naturally turn to this directory.

The Cost is small.

1-inch card $25 a quarter in advance—$100 a year for 26 issues. 2-inch card $50 a quarter in advance—$200 a year for 26 issues. Larger space increases proportionately. Single insertion rate $5.

Milliken Buildings

ALWAYS RECOGNIZED AS THE BEST STANDARDIZED BUILDINGS—NOW THE LOWEST IN COST



Every MILLIKEN BUILDING is COMPLETE—ALL-STEEL—PERMANENT—FIREPROOF. Suitable for service in all branches of the oil industry.

There is a CHOICE OF A THOUSAND BUILDINGS of different sizes and types for immediate selection. Ready to ship—ready to erect with local labor. The best buildings at the lowest cost.

Send for Complete, Illustrated Catalog

Milliken Brothers Mfg. Co., Inc.
2395 Woolworth Bldg., New York, N. Y.
Also Manufacturers of
Transmission Towers — Radio Towers

Believe Policy Will Be To Develop Acreage On Conservative Basis

By Paul Wagner
STAFF REPRESENTATIVE

HOUSTON, Aug. 28.—Texon Oil & Land Co.'s No. 1 well in Sec. 1, Block 8, University Lands, Reagan county, made initial production of 2348 barrels on the first 24-hour gauge, according to latest reports from San Angelo.

The well is the one reported in the August 27 issue of National Petroleum News as coming in at 3025 feet, total depth, making 84 barrels an hour, or at the rate of 2016 barrels daily.

Except for the "discovery" well of the Santa Rita area, in Sec. 2, Block 2, University Lands, which the Texon Oil & Land Co., sold a year ago to the Big Lake Oil Co., along with 16 sections out of its total block, this is the first completion of the Texon in the Reagan county development.

A second well of the Texon, in Sec 22, Block 9, two miles east of the No. 11 Santa Rita of the Big Lake Oil Co., is in the limestone horizon at total depth of 2841 feet, awaiting completion. This is the well previously referred to in National Petroleum News as structurally 32 feet higher than earlier Santa Rita wells.

Refrigeration Scientific Reason for Temperature

The scientific explanation of the cold temperature of the oil coming from the Reagan county wells is given by John R. Suman, general manager of the Rio Bravo Oil Co., Houston, who says that 'refrigeration is the cause. This oil comes out of the well at a temperature of 56 degrees Fahr., an almost unexampled condition for petroleum from a limestone formation.

Mr. Suman says that the expansion of the gas coming into the hole at high pressure creates refrigeration in that it comes in theoretically at approximately 1300 pounds rock pressure and expands to atmospheric pressure, the unusual result being accomplished in this process.

Production Marketed Totals 130,000 Barrels

Marketed production of petroleum from Reagan county, which was confined to the Santa Rita wells of the Big Lake Oil Co., had totalled roundly 130,000 barrels prior to August 15, last.

In July, railroad shipments of crude to the Transcontinental Oil Co., at Fort Worth, and the Rio Grande Oil Co., at El Paso, totaled roundly 55,000 barrels. In the first 15 days of August, the total quantity so moved amounted to approximately 59,000 barrels.

From January 1, last to July 1, a period of six months, the total shipments were roundly 16,000 barrels. It was not until June 20, last, however, that the No. 9 Santa Rita well of the Big Lake Oil Co., put an important significance to development. Earlier wells had been indifferent producers. After No. 9, however, come Nos. 10 and 11 as more important wells, now to be followed by the Texon Oil & Land Co. completions made or due.

Disposition to Develop Field Conservatively

W. L. Karnes, formerly with the Arkansas Fuel Oil Co. and now general manager in charge of operations of the Big Lake Oil Co., is credited in field circles with the belief that one well to every 40 acres will be sufficient to adequately develop the field in southwestern Reagan county that is marked by the development of the Big Lake's Santa Rita wells and the more recent completion of the Texon Oil & Land Co.

The statement is not made officially, but it is known that the disposition of that company as well as the Texon, which latter owns a 25-per cent stock interest in the Big Lake, is to operate with reasonable conservatism.

United States Senator Connected with Texon

United States Senator Morris Sheppard, who was one of the principals in tacking constitutional prohibition onto the country in wartime, is reported to be a large stockholder in the Texon Oil & Land Co., of which Haymon Krupp, El Paso wholesaler, is president and Frank Pickrell, also of El Paso, vice president and general manager.

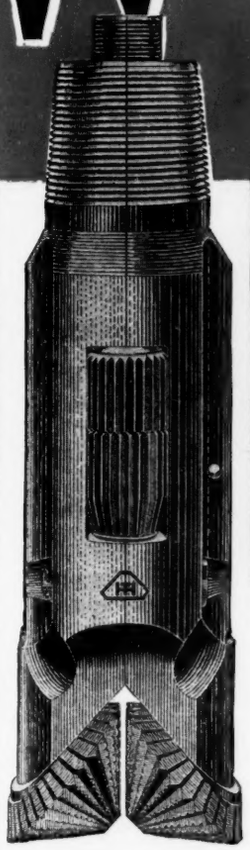
State Senator Hudspeth of Texas is also reported to be a large stockholder.

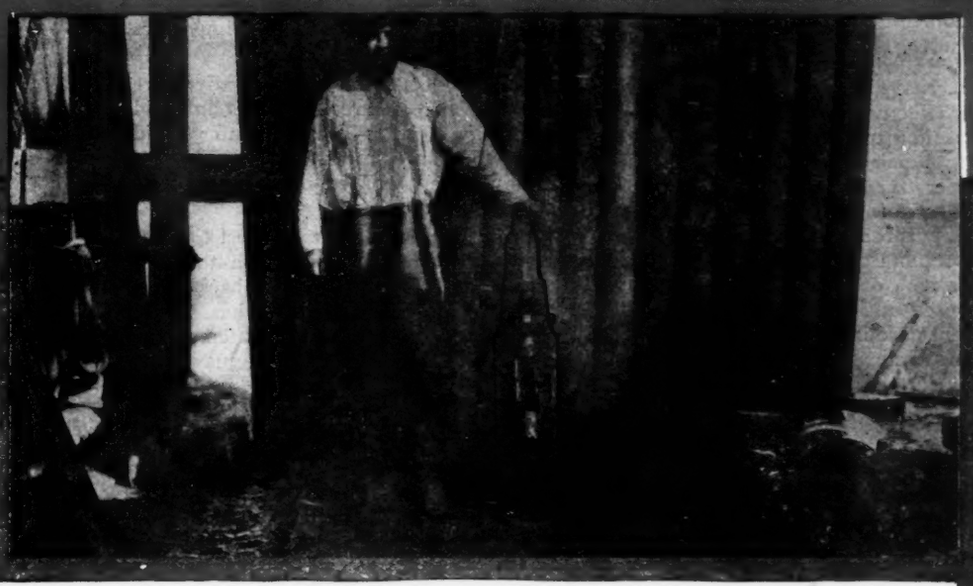
Stock market transactions in the form of over-the-counter sales have shown stiff activity in the few days since the coming in of the Texon's well. Texon stock, of which about 2 million shares at $1 par had been issued of total authorization of $10,000,000, was selling a few weeks ago at 25 cents.

It began climbing recently, first to 62½ cents a share and later to $1; August 26, trading in New York reached the level of $2.50 bid, $2.75 asked. Later in the day, the market dropped back to $1.75 bid, $2.25 asked, with the prospect that succeeding days would find wide fluctuations.

A report circulated early in the week that Texon had sold one-tenth interest in the company to each the Gulf Production Co. and the Humble Oil & Refining Co. is denied. Individuals in both companies are reported, however, to have been trading actively in the stock.

WILDCATTING in California-





-and depending on HUGHES

ROCK BITS & TOOL JOINTS

Drilling at a depth of **4140 Feet** with a 9¾-inch Hughes Simplex Rock Bit 60 feet of hole was made with one set o cones—and the set still good for more hole.

This run was made at Mendicino Midway Oil Co's wildcat well located at Button Willow, 25 miles northeast of Taft, California.

Well drilled by	W. F. BURNS	4-inch Hughes
Taft Well Drilling Co.	Drilling Supt.	"ACME" Tool Joints
Taft, Calif.		Used

Sold by supply stores—everywhere

HUGHES TOOL CO

Houston Los Angeles Calif. HOUSTON, TEXAS

Substitute Motor Fuel Fails In France

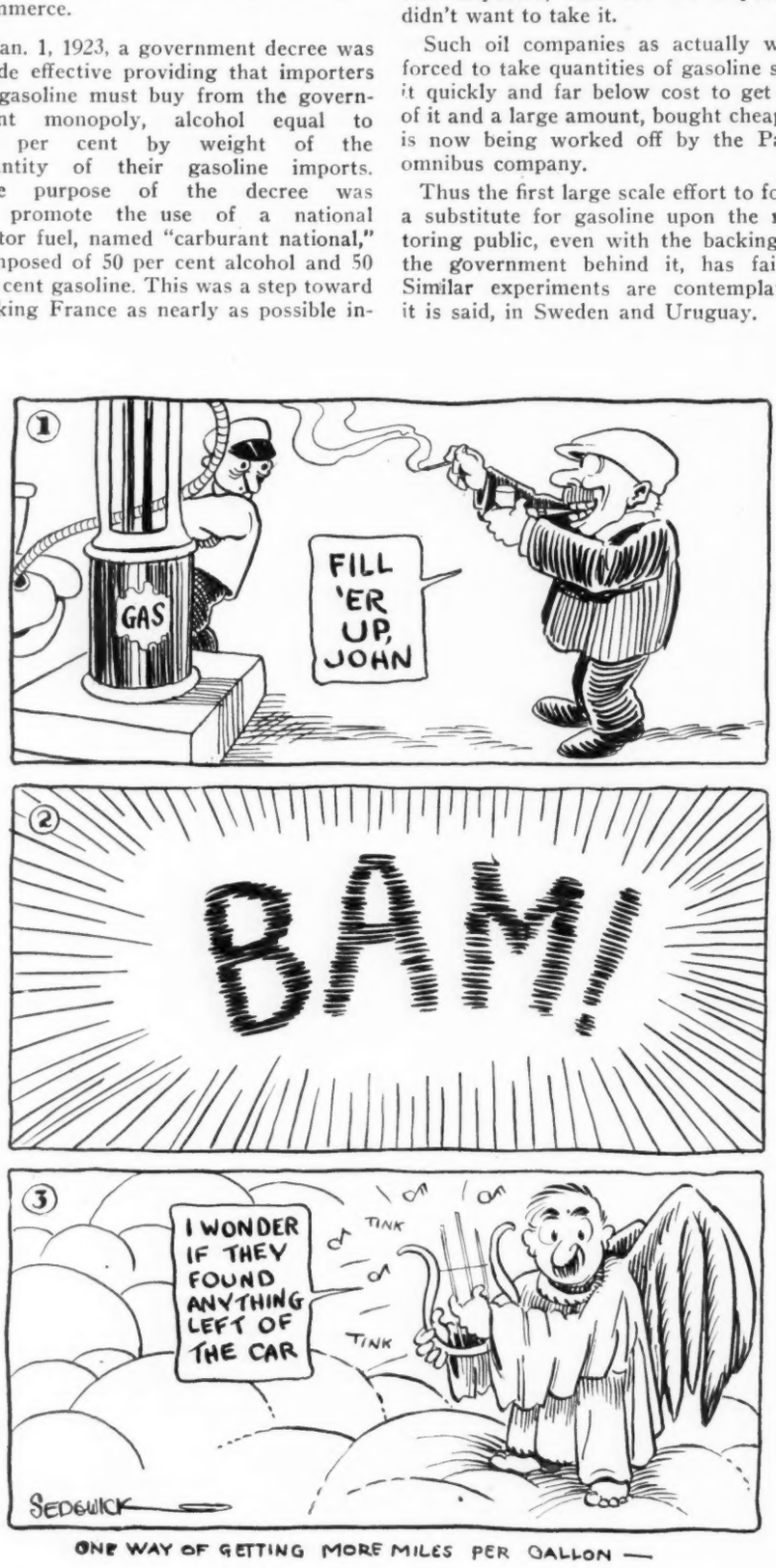
WASHINGTON, Aug. 29. — The French government has apparently failed in its effort to put across alcohol as a substitute motor fuel for gasoline with the French people. This is indicated by the report of Commercial Attache Chester Lloyd Jones in France, and put out by Homer S. Fox of the department of commerce.

Jan. 1, 1923, a government decree was made effective providing that importers of gasoline must buy from the government monopoly, alcohol equal to 10 per cent by weight of the quantity of their gasoline imports. The purpose of the decree was to promote the use of a national motor fuel, named "carburant national," composed of 50 per cent alcohol and 50 per cent gasoline. This was a step toward making France as nearly as possible independent of outside resources of motor fuel.

The government held very large stocks of gasoline under a war time law, still in effect, making the government the sole purchaser of alcohol produced in the country. The French public did not take kindly to the carburant national. Because of lack of dehydrating equipment, the government was unable to make deliveries of alcohol equal to the prescribed percentage of the gasoline imported, and the oil importers didn't want to take it.

Such oil companies as actually were forced to take quantities of gasoline sold it quickly and far below cost to get rid of it and a large amount, bought cheaply, is now being worked off by the Paris omnibus company.

Thus the first large scale effort to force a substitute for gasoline upon the motoring public, even with the backing of the government behind it, has failed. Similar experiments are contemplated, it is said, in Sweden and Uruguay.



ONE WAY OF GETTING MORE MILES PER GALLON —

Rosecrans Outstanding California Field

LOS ANGELES, Aug. 28.—The Rosecrans field, at the outskirts of this city, looms just now as the outstanding feature of California oil developments for the year.

There are two wells on production in that area, and scattered around them are 40 other wells which are all milling away at a lively rate. The completion of the Superior Oil Co.'s Maxwell No. 1 a few days ago, as a 1200-barrel producer capable of doing perhaps 3000 barrels per day, was the signal for a regular drilling stampede.

This week, in just three days, 11 new wells were staked out at Rosecrans. Four of these will be drilled by the Superior outfit, 4 by E. J. Miley on the 25-acre lease which he and the Marland Oil Co. jointly hold, 2 by the Associated Oil Co., and one by George F. Getty.

Most of these wells will be drilled as protection holes in the vicinity of the Superior lease. The first Miley-Marland well will be spudded in tomorrow. Two others are rigged up, and lumber is being hauled for the other.

The Maxwell well, which is yielding crude of 42.6 degree gravity, was turned into one of the Barnsdall Oil Co. tanks when it came in, but a lot of the oil was lost during the next two days, because it was so light in quality that it trickled through the seams in the tanks. The Superior has since completed tanks of its own which are holding the oil.

California Plants Cut Gasoline Output

SAN FRANCISCO, Aug. 28.—Production of gasoline at 38 refineries in California in July totaled 93,742,087 gallons, a daily average of 3,023,938 gallons. The total was 15,824,976 gallons less than the June output. Stocks of gasoline decreased during the month 15,540,285 gallons to 261,419,197 on July 31.

Kerosene production increased 110,967 gallons over June to a total of 20,218,984. Stocks on July 31 were 30,883,143, a decrease of 1,537,824 gallons.

Gas and fuel oils output totaled 365,434,975 gallons or 4,498,815 gallons less than in June. Stocks decreased slightly to 804,160,352.

Output of lubricants was 9,087,426 gallons, an increase of 321,794 gallons over June. Stocks increased to 16,575,687 gallons.

Will Show Truck at Tulsa

CLEVELAND, Aug. 30.—The White Co., Cleveland, has announced it will exhibit at the International Petroleum Exposition in Tulsa its model 20-45 truck fully equipped for oil field service. A photographic display of all White models ranging from the ¾-ton to the 5-ton chassis will be exhibited. Factory representatives from Cleveland with Frank Carr, the Tulsa manager, will be present throughout the exposition.

THE EDITORS' VIEWPOINT

Fishing For Minnows

THE Federal Trade Commission has outdone itself, it appears to the ordinary mind, in its recent citation of the Waverly Oil Works of Pittsburgh for using the names Tur-Min-Tine and Min-Seed-Oil on two of its products that it has been selling to the paint trade and big paint users for the past 10 or 15 years. The names are always written or printed as shown above and accompanied by the declaration plainly made that they are pure products of petroleum.

Nobody above the mentality of a moron could buy either of these two products under the impression that he was getting turpentine and linseed oil. And yet the citation for misbranding. In addition to the fact that every container of the Waverly products plainly carries the description of the contents, both trade names have been registered and copyrighted for years.

In the case of Min-Seed-Oil, the company has not been making or selling it for the past year. Thus the spectacle is presented of one branch of the government solemnly registering and allowing copyright to issue on coined trade names of two products while another branch solemnly cites the users of those registered names for misbranding their products.

The commission has a long record of pestering business by attacks, mostly on trivial points, and unfair accusations, hurled broadcast without any supporting data and without giving the person or company cited a chance to present his side of the case. In other words, the defendant is convicted in the first blast of the commission and the complaint, later, in many cases, is either dismissed or found to be unjustified.

In such cases, of course, the acquittal of the cited firm or the dismissal of the complaint never catches up in the public mind with the original accusation.

At the same time that the commission is busying itself with trifling matters and quibbling over unimportant trade names and such, gigantic swindles are being carried on every day and the public being robbed through widespread advertising in national periodicals and newspapers and the commission is not at all disturbed.

It is like a man fishing with a fine mesh net and catching minnows while the big fish with which the sea abounds, swim by unhindered.—P. T.

Another Lafollette Joke

IT GIVES one quite a mental pang to read in La Follette's utterances to the press of his unselfish ambition to make a greater portion of the nation's gasoline supply available to the public. If there was one thing we honestly did not think the industry would ever be criticised for, it was any failure on its part to make gasoline available at every four-corners throughout the country. What criticism has come has been the other way, and its tremendous expansion in service stations and curb pumps as retail outlets has been pointed out as evidence of too large profits in the business.

But politicians are tremendously hard to please in the year of a presidential campaign. Maybe La Follette would like to have us install a system of mains and pipe lines in all cities and communities, so that every man could draw his gasoline supply from a tap in his garage, just like he does water for his radiator.—V.B.G.

Jobber Plans Lapel Pin For I. O. M. A. Group

Staff Special

CHICAGO, Aug. 26.—W. H. Holcombe, of the Pennsylvania Petroleum Products Co., Providence, R. I., has developed a unique means of giving expression to the fraternal feeling among Independent jobbers. Having a brother who is a jeweler, he took him into his confidence and the two have developed a design for signet rings and lapel pins bearing the insignia of Independence.

The first piece of jewelry made was a handsome signet ring which the Pennsylvania Petroleum Products Co., Inc., presented to L. V. Nicholas, president of the National Petroleum Marketers' Association. Mr. Nicholas is wearing it now with a great deal of pride. The design is mounted on a heavy gold mounting and shows up the enamel of the black triangle and red eagle to good advantage.

Mr. Holcombe relates that the Independent Oil Men of America appealed to him in many ways as being analogous to a fraternity. The I. O. M. A. is the advertising group of the N. P. M. A., composed entirely of members of the parent organiation and governed by a board of trustees who are all N. P. M. A. directors. The fraternal spirit in the advertising group is a valuable asset to it, Mr. Holcombe thinks, and he sought to give it expression as other fraternal orders manifest their brotherhood.

The engraver made the ring entirely by hand. No dies were used. But dies will be necessary if a demand develops among the members for the kind of emblems Mr. Nicholas is wearing. The black triangle was cut into the face of the ring. The eagle was cut from a sheet of gold and carved out with an engraver s instrument. Then it was sent to the enamelers, pegged on the ring and the whole job polished.

Workmen are busy now completing the lapel pin. It likely will be on exhibition at the convention of the National Petroleum Marketers' Association in Cleveland, November 18, 19 and 20, not in the form of an equipment exhibit but on the lapel of Mr. Holcombe or some person of his selection.

Mr. Nicholas relates that the ring has already shown how well the national advertising campaign of the I. O. M. A. has taken hold of the public mind. He was sitting on a bench in a little park near the railroad station in a small Illinois town recently waiting for a train when a child came along and engaged him in conversation by saying, "Oh! you've got a gasoline ring."

N. P. A. Annual Meeting Opens Sept. 17

CLEVELAND, Aug. 30.—The annual meeting of the National Petroleum Association will be held Sept. 17, 18 and 19 in Hotel Traymore, Atlantic City, C. D. Chamberlain, secretary and general counsel, has just announced.

L. D. Wyant, chemical engineer at the experimental station of the Bureau of Mines at Bartlesville, Okla., will read a paper on "Separating Wax from Wax Distillates." The remainder of the speaking program is now being worked out.

BOWSER
ESTABLISHED 1885

The man who has gasoline to sell, naturally wants the public's mind concentrated on the gasoline, rather than on the pump that measures it out.

Bowser knows this, and devotes all its energies to building an always-dependable pump—one that will stand up under hard usage and enable the pump owner to serve his trade quickly, accurately and with utmost economy.

S.F. BOWSER & COMPANY, Inc.

FORT WAYNE, INDIANA.

Sales and Service Offices and Representatives Everywhere

Boyce-ite Promoters Seek To Sell Jobbers On Contract

CLEVELAND, Aug. 28

THE Boyce & Veeder Co., Inc., is making a strong campaign to establish widespread distribution of Boyce-ite treated gasoline through visible pumps at the stations of oil jobbing companies over the country.

Whether the terms on which Boyce-ite is being offered to various oil companies are uniform is not known. The terms on which it was offered to one large marketing company are known. This proposed contract provided that the distributor taking it on must:

Obligate himself to take a minimum quantity of Boyce-ite Blu-Green Ingredient per month at $10 a gallon. This would mean a cost of 1 cent a gallon for treating gasoline because one gallon of Boyce-ite is recommended to treat 1000 gallons of gasoline.

Obligate himself to install and operate a specified number of new visible pumps each month during the life of the contract (one year) for the distribution of Boyce-ite treated fuel.

Obligate himself at all times to carry in stock sufficient Boyce-ite Blu-Green Ingredient to cover his maximum requirements for a period of six weeks.

Obligate himself to pay from $5 to $10 a month for each pump he uses in distributing Boyce-ite treated gasoline, for advertising carried in his territory by the Boyce & Veeder Co.

Obligate himself to pay for the Boyce-ite Blu-Green Ingredient shipped to him sight draft bill of lading attached.

Obligate himself to paint the pumps, trucks and portable tanks used in distributing Boyce-ite treated gasoline as prescribed by the Boyce & Veeder Co. and to carry signs advertising Boyce-ite at each station as prescribed by the Boyce & Veeder Co.

On its side, the Boyce & Veeder Co. agrees to:

Furnish the jobber the specified number of gallons of Boyce-ite Blu-Green Ingredient monthly.

Give him exclusive sales rights for the Blu-Green product in his territory (the contract says nothing about restricting the sales of Boyce-ite in cans in his territory).

Pay half the cost of a local advertising in the distributor's territory.

The blank form of the contract offered to one oil company follows:

Boyce-ite Blu-Green Ingredient Distributor Contract

This Agreement made the ..... day of ..... 1924, between the BOYCE & VEEDER CO., INC., a New York corporation, having its principal office at Long Island City, New York, hereinafter referred to as the "Company" and

Blank Oil Co.

having its principal place of business at

Blankton, O.

hereinafter referred to as the "Distributor":

Whereas, the Company is the manufacturer of an ingredient for treating gasoline, known, and hereafter referred to as Boyce-Ite Blu-Green Ingredient and the Distributor is desirous of treating gasoline with said ingredient for distribution and resale to retail gasoline filling stations in the territory hereinafter particularly defined, upon the terms and conditions hereinafter set forth, it is agreed between the parties as follows:

First: The Company agrees from the date hereof, during the existence of this contract and subject to the terms thereof, to sell and deliver to the Distributor its product, Boyce-Ite Blu-Green Ingredient, at Ten ($10.00) Dollars per gallon, in quantities of not less than ..... gallons per month, to be shipped in fifty (50) gallon containers, f.o.b. nearest company warehouses at either Farmingdale, Long Island, Chicago, Illionois or Los Angeles, California with allowance to Distributor by the Company, of freight rate only to destination.

Second: All shipments shall be sold Sight Draft, Bill of Lading attached.

Third: Containers shall remain the property of the Company, shall not be used for any other purpose by the Distributor except for the storage of Boyce-Ite Blu-Green Ingredient and shall be returned by Distributor to the Company, freight collect within Sixty (60) days after original shipment.

Fourth: Containers will be invoiced to the Distributor at Twelve ($12.00) Dollars each for which due credit allowance in the same amount will be allowed to the Distributor by the Company if returned in good condition, reasonable wear and tear excepted.

Fifth: During the period of this agreement the Distributor shall have the exclusive right and license to sell for distribution gasoline properly treated with Boyce-Ite Blu-Green Ingredient in the following territory, to wit:

(Here territory is described)

and shall not sell said gasoline treated therewith in any other territory than that above specified without the written consent of the Company, and the Company agrees that during the term of this contract it will not sell directly, nor offer to any other person, group or corporation the right or privilege of distributing gasoline properly treated with Boyce-Ite Blu-Green Ingredient within said specified territory.

Sixth: The Distributor agrees to install and operate or procure the installation and operation continuously for the exclusive dispensing of gasoline properly treated with Boyce-Ite Blu-Green Ingredient at gasoline filling stations in said territory of not less than .....pumps during the first month of this agreement, ... pumps during the second month, ... pumps during the third month, or a total of ..... pumps at the end of the third month. Said pumps to be of the recognized "visible" glass type.

Seventh: If, as hereinafter provided, this agreement remains in force after Ninety (90) days from the date hereof, it is understood and agreed that the Distributor will during said further term of this agreement additionally install and operate not less than .....of said "visible" glass type pumps every three months for the exclusive dispensing of gasoline properly treated with Boyce-Ite Blu Ingredient and purchase a minimum of ..... gallons of said product every calendar month during term of this contract. In addition the Distributor shall, at all times, endeavor without discriminating in favor of any person, group or corporation, to promote the sale of gasoline properly treated with Boyce-Ite Blu-Green Ingredient and the installation and operation of dispensing pumps in any and all filling stations included within said above specified territory The Distributor shall not refuse to serve any filling station owned by any person or corporation without any justifiable cause, and then only with the approval of the Company.

Eighth: The Distributor further agrees to paint or cause to be painted all pumps, tank wagons, portable or sidewalk tanks, and all other vehicles used for the sale, distribution or transportation of gasoline properly treated with Boyce-Ite Blu-Green Ingredient in accordance with the color scheme and wording of the Company and to erect and maintain a "Boyce-Ite Treated Gasoline" sign at all filling stations, said signs to be painted in accordance with color scheme of the Company and bear such wording only as may be recommended and approved by the Company.

Ninth: The Distributor agrees to maintain in stock at all times a sufficient quantity of Boyce-Ite Blu-Green Ingredient to cover his maximum requirements for a period of six weeks.

Tenth: Nothing contained in this contract shall bind the Company to supply said Distributor with any of its other products, excepting said Boyce-Ite Blu-Green Ingredient.

Eleventh: It is understood and agreed that should the Distributor sell

Patent Pending

Can You Describe a Peach?

THE Neil outfit is the peach of the oil dispensers and cannot be described satisfactorily. It should be seen to be appreciated as it will tell its story much better than we can.

Perhaps the better way would be to order one or more carriers at $6.50 each, and let them demonstrate themselves.

Descriptive circular on request

Wᴹ Neil & Co.

617 W. Division St. Chicago, Ill.

42 Years Scientific Refining

H. B. S.

MOTOR OILS

A high grade product

WRITE OR WIRE
- FOR SAMPLES -
AND QUOTATIONS

The National Refining Co.

National Headquarters: National Bldg.

Cleveland, Ohio

3 Modern Refineries

Coffeyville, Kansas Findlay, Ohio Marietta, Ohio

the product of the Company, known as "Concentrated Boyce-Ite" in containers for the purpose of treating gasoline in individual tanks of Automobiles, Trucks, etc., said material shall be purchased by the Distributor through the local jobbers of the Company it being understood that the sale of Blu-Green Ingredient to the Distributor shall be for the sole purpose of treating gasoline in bulk to be dispensed through gasoline pumps direct to the consumer only.

Twelfth: The Company agrees within ..... days from the execution of this contract to inaugurate and manage an advertising campaign within the territory covered by this agreement on the basis and at the rate of Twenty ($20.00) Dollars per month for each pump installed under this contract by the Distributor in said territory during the first three months of this agreement, and at the rate of Ten ($10.00) Dollars per month for all pumps in use under this contract in said territory during the continuance and existence of this agreement. The cost of said advertising is to be borne equally by both parties hereto. The Company will invoice the distributor monthly for the Distributors share of such advertising cost and said sum shall be payable by the Distributor immediately upon the receipt of invoice.

Thirteenth: It is agreed between the parties that any and all advertising covering gasoline properly treated with Boyce-Ite Blu-Green Ingredient, regardless of its character, shall be approved and placed by the Company, and the Company agrees to supply the Distributor from time to time with such advertising material as signs, circulars window displays, etc., which in its judgment shall be necessary and appropriate.

Fourteenth: In the preparation and distribution of said gasoline properly treated with Boyce-Ite Blu-Green Ingredient, the distributor agrees:

(a) To use a good grade of gasoline and to mix therewith no other substance other than Boyce-Ite Blu-Green Ingredient as supplied by the Company.

(b) To mix Boyce-Ite Blu-Green Ingredient with such grade of gasoline only in the proportion of one part of Boyce-Ite Blu-Green Ingredient to every 1000 parts of gasoline.

(c) To describe and advertise such mixture only as Boyce-Ite Treated Gasoline, the Blu-Green Carbonless Fuel.

(d) To sell said product only through the medium of the so-called "visible" gasoline pumps, which shall be painted as above required and re-painted by said Distributor at least every Six (6) months, during the life of this contract.

(e) To do nothing directly or indirectly under the rights created by this license which will tend in any way to injure the good will or reputation of the Company and the trade name of Boyce-Ite.

Fifteenth: It is understood and agreed that this contract shall continue in force for a minimum period of one year from the date hereof with the reservation to the Distributor to cancel this agreement ninety (90) days from the date hereof, by the Distributor within sixty (60) days of the date hereof, directing by registered mail to the Company at its above address, written notice of such intention to cancel.

In the event said contract is not cancelled by the Distributor as herein provided, it shall continue in full force for said minimum term of one year and continuously thereafter; subject, however, to termination at the end of said minimum term of one year and at any time thereafter by either party giving written notice to terminate, through registered mail, properly addressed to the other, at least sixty (60) days before such termination shall become effective.

Sixteenth: The Company reserves the right to rescind this agreement upon the Distributor's breach of any of the foregoing conditions. Notice of such rescission shall be in writing sent by registered mail to the Distributor at his above mentioned address, whereupon this contract shall cease and determine. Upon such notice of recission Distributor shall cease selling said gasoline properly treated with Boyce-Ite Blu-Green Ingredient and shall remove from public display all signs and advertising matter on his premises and cause the distinctive color, wording and decoration of the Company on all pumps, wagons, tanks and other implements of the Distributor used in the sale and distribution of said gasoline properly treated with Boyce-Ite Blu-Green Ingredient, to be obliterated by re-painting. And the Distributor for himself or assigns, herewith grants unto the Company or its agents the license and privilege to enter without notice upon the premises of the Distributor, in the event of such breach and rescission, for the purpose of removing all advertising matter and re-painting all pumps, tanks, or other implements, bearing the Company's distinctive color or decorations in the event of the Distributor's failure to do so immediately upon such notice of cancellation.

Seventeenth: It is further understood and agreed between the parties hereto that the distributor shall not assign this contract without the written consent of the Company.

Eighteenth: It is agreed that neither party shall be held responsible by the

TRIPLEXD

XXX GASOLINE HOSE XXX

TRADE MARK REG. U. S. PAT. OFF.

METAL HOSE & TUBING COMPANY

BROOKLYN, NEW YORK

A Saving That Counts

USERS of Triplexd pay less per year for hose, because they buy it less often.

Once in two years is the most frequent hose replacement at any pump equipped with Triplexd. It rarely occurs even that frequently.

If for any reason (except fire or theft) the hose doesn't last two years, it is replaced without cost to you for the unexpired period.

In buying Triplexd, you are buying, not hose, but *insured gasoline transportation.*

Ask to see a copy of the Triplexd Service Insurance Policy.

Made for maximum service not merely the average

TRADE JENKINS MARK

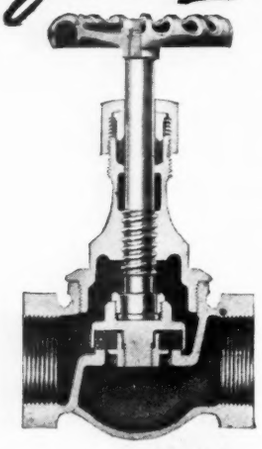
Jenkins Bros

A disc for every service

The Jenkins Disc, with which all Jenkins Valves of the type shown are equipped, is made of flexible composition, that adjusts itself to the valve seat and makes a tight leak-proof joint when the valve is closed.

The Jenkins Disc can be easily renewed without removing the valve from the line. It is specially compounded for the various services for which Jenkins Valves are recommended.

Specify service when ordering. At supply houses everywhere.



Sectional View, Fig. 106 Screwed, Standard Bronze Globe Valve, fitted with renewable composition disc, shown here.

JENKINS BROS.

80 White Street.....New York, N.Y.
524 Atlantic Avenue.....Boston, Mass.
133 No. Seventh Street..... Philadelphia, Pa.
646 Washington Boulevard..... Chicago, Ill.

Always marked with the "Diamond"

Jenkins Valves

SINCE 1864

NIAGARA OIL

METERS

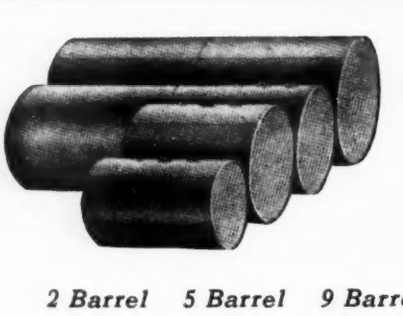
They automatically measure and register any oil product that is pumped or that flows by gravity in a pipe or a hose. Many in use by refineries, jobbers and retailers.

Write for prices, testimonials and illustrated catalog.

BUFFALO METER CO.

Est. 1892

2889 Main St., Buffalo, N. Y.



WACKMAN Underground Tanks

Underwriters Inspected and Approved

STANDARD SIZES

2 Barrel 5 Barrel 9 Barrel 10 Barrel 18 Barrel

WACKMAN WELDED WARE COMPANY

Seventh and Victor Sts.
ST. LOUIS, MO.

other for any loss or damage caused by fire, strikes, delays in shipments, acts of the Government, or any causes beyond their control, and it is further understood that this contract shall not be binding upon the Company unless duly signed and executed by an officer of the Company with the seal of the Company affixed hereto.

Industrial Notes

Lewis-Shepard Co., 613 E. First st., Boston 27, Mass., manufacturers of labor-saving equipment, has developed a combination type stacker for loading cars, which, it claims, will do the same amount of work with three men where it previously took five. A report was made to the company by the C. F. Simonins Co., Philadelphia, which uses the stacker, for loading a car of filled barrels, which revealed that 80 barrels were loaded in 32 minutes with three men doing the work, whereas it formerly required five men to do the work in 2½ hours.

* * *

The Gibb Instrument Co., Bay City, Mich., manufacturer of electric welding equipment, announces the appointment recently of D. A. Clements to represent it in Missouri and southern Illinois, with headquarters at 4167 Washington av., St. Louis.

Buffalo Oil Man Dies

BUFFALO, N. Y., Aug. 28.—Col. T. A. Budd, for 20 years with the Enterprise Oil Co., Buffalo, and widely known throughout the Pennsylvania oil fields, died at his home in Buffalo, July 26.

Col. Budd was 80 years old but was able to be at his office until two days before he died. He left the office apparently suffering from neuritis but just failed to waken the second morning afterward.

The title "Colonel" was given him by his friends but he held the rank of captain, and was in command of a company in the Second New York Mounted Rifles from shortly after the outbreak of the civil war.

FORT WORTH, Aug. 28.—With additional service stations cutting prices of gasoline here, a renewal of last falls' gasoline price war is believed in prospect. The tank wagon price is 10 cents here including a state tax of 1 cent.

Prices of U. S. Motor gasoline is firm at 8 cents in tank car lots in this territory with 9 cents the local delivered price. Most Independent service stations are selling gasoline at 12 cents today with some posting 11 cents.

Major distributing companies are selling at 14 cents. Last fall gasoline sold at 8 cents and 9 cents a gallon at stations of both major and minor companies with the tank car price above 6 cents.

Automatic Temperature Control In Fractionating Towers

By W. C. Begeebing
C. J. Tagliabue Manufacturing Co.

IT HAS only been in the last few years that efficient fractionating towers and reflex condensers have come into general use, although far-sighted operating men and technologists had predicted this necessary development before its adoption.

Tower constrction has been greatly improved in a relatively short time and in conjunction with this notable advance in refinery practice has come the widespread adoption of automatic temperature control.

The application of automatic temperature control to reflex condensers and dephlegmating, fractionating and bubble towers has been in line with a general desire for more efficient and exact methods of operation. Moreover, the present practice of grading and marketing the lighter petroleum products on the basis of end point (rather than gravity) has made control of temperature the logical factor by which to secure uniformity.

In continuous distillation, which is now generally employed, many considerations must be taken into account in securing cuts of the desired specifications. The nature of the crude, the firing temperature, the rate of heat transfer in the tower or partial condenser, the temperature and quantity of the feed—all these are important factors.

The last controlling factor, the temperature of the vapors leaving the towers can be exactly regulated by automatically controlling the cooling action in the tower and unless this is done undercooling or overcooling will occur in the tower even though the still temperature and the amount of cooling medium put through the tower are kept practically constant.

Effect of Undercooling

If undercooling takes place, some of the higher boiling point products will pass out of the tower and these heavier ends will be present in the distillate. This will require rerunning or will result in a product not conforming to the desired specifications.

If overcooling takes place, products which should be allowed to go over will be knocked back. They will reflux back into the still or will be revaporized lower in the tower and will again be condensed and knocked down before they reach the tower outlet. This cycle of vaporization and condensation will continue as long as the cooling effect of the tower is too great. The result, of course, is a reduced yield of light product and a waste of fuel because of the inconclusive cyclic action.

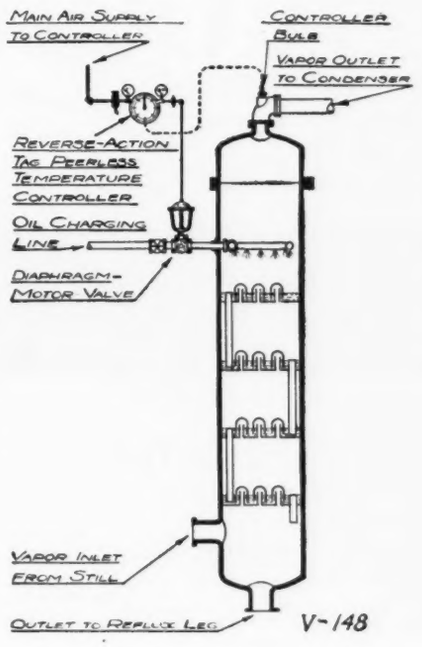
By automatically controlling the admission of cooling medium to the tower so that the exit vapors are maintained at a constant temperature a uniform product is assured, rerunning may be eliminated, and a higher yield can be obtained.

It would be idle to suggest, however, that this automatic temperature control of the tower makes it less important to maintain the proper still temperature or that a competent and intelligent operating force is thereby rendered unnecessary. But it can be claimed (on the basis of actual performance) that properly designed automatic controllers on tower regulation have entirely eliminated one factor, which, before their installation, has been a source of inefficiency and trouble.

Most of the larger refiners and a great number of the smaller plants are now using automatic control for this purpose. This article will not disclose the details of installation in this work because of its confidential nature. Because of these limitations the accompanying illustrations have been made in diagrammatic form and details of tower construction have been avoided. These six diagrams, together with the following explanation should serve, however, to make clear the method of control.

These diagrams by no means cover completely the various possible arrangements of control but such a discussion is beyond the scope of this article.

In some towers the cooling effect is accomplished by charging cool oil into the top of the tower and by means of suitable baffling bringing it into intimate contact with the vapors which are admitted at the bottom of the tower and leave at the top. The cool oil condenses the vapor fractions with high boiling points and runs with them back into the still.



This charging oil plus the condensed portions (reflux) supplies the still with the necessary feed for continuous running. The baffling in the tower may be checker brick work, broken tile, plate baffles, trays or bubble plates. In diagram V-148 bubble plates (as are widely used in alcohol work) are shown and this tower is consequently known as a bubble tower.

The rising vapors bubble through the liquid on the plates which liquid automatically maintains itself by the overflow pipes. The overflow from plate to plate is caused by the addition of fresh charging stock and by condensation of the high boiling point vapors overflowing the bottom plate and running back into the still.

Frequently distillate is introduced into the tower, the necessary cooling effect being obtained by this recycled stock. In conjunction with this the raw make-up oil is often fed in near the bottom of the tower.

Control is obtained by installing a diaphragm-motor valve in the oil line and inserting the bulb of a reverse-acting temperature controller in the exit vapor lin. If the oil charged into each tower is pumped by a separate pump for each tower, the diaphragm-motor valve can be placed in the steam line of the pump and control secured by regulating the operation of the pump, as shown in diagram V-149.

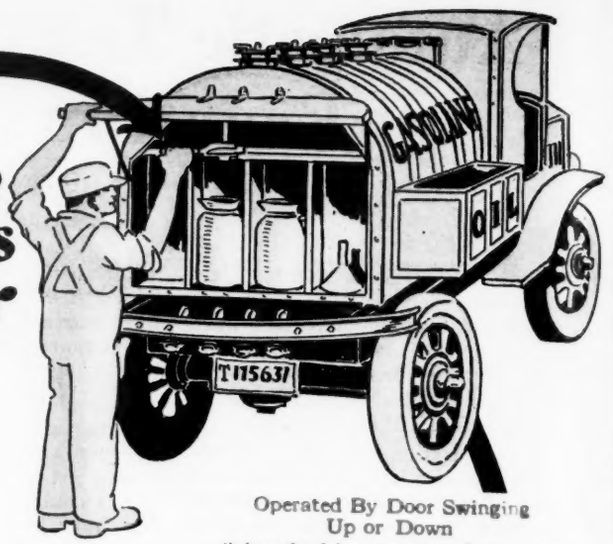
For Oil-cooled Tower With Oil Circulated in a Closed Coil

As it is frequently desired to heat the charging oil fed into the still, the cooling of the vapors is obtained by circulating the oil through a closed coil at the top of the tower. Inasmuch as a constant feed is usually desired, it is necessary to provide a by-pass for this oil coil and control by placing a diaphragm-motor valve in the by-pass, all as shown on diagram V-146. The bulb of the direct-acting temperature controller is placed in the exit vapor line.

If the temperature of the vapor tends to increase, the by-pass is shut-off until all the oil is passing through the coil in the tower. If the temperature of the vapors tends to decrease the diaphragm-motor valve on the by-pass is gradually opened, allowing part of the oil to go through the by-pass instead of

29 Exclusive Features

The Safety Valve That Thinks For The Driver

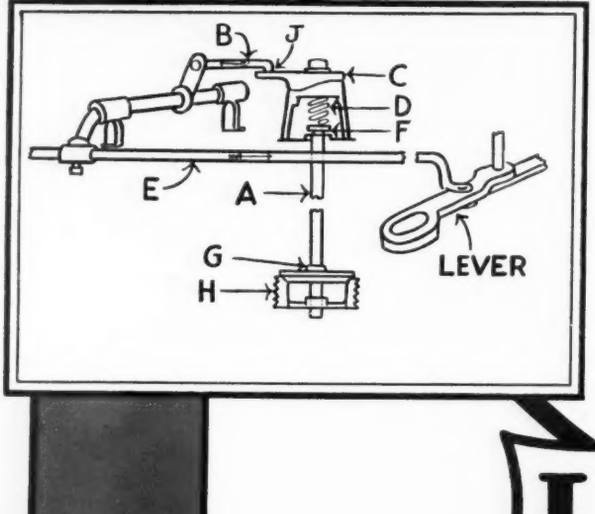


Operated By Door Swinging Up or Down

Before the driver can close the rear door he must first release the lever in the bucket box compartment at the rear of the truck tank. This lever controls all of the emergency valves in the several tank compartments. After the lever is released the rear door can be closed—not before.

Here's another of the worth-while 29 exclusive features that make LUCIUS an outstanding figure in the realm of the oil truck industry. When a LUCIUS equipped truck is rammed from the rear it is not necessary to depend on the human element having presence of mind to operate the safety valve from the cab.

Lucius trucks are as *human* as an inanimate object can possibly be made. The only manner in which the faucets can be operated is by first raising the door at the rear of the tank and then opening the unit control emergency valve. Closing the door necessitates closing the valves by virtue of the special automatic safety arrangement.



By throwing the lever in the bucket compartment open, the shaft E moves in direction shown by arrow. This reverses the motion of link B, directly connected with emergency valve control J. The emergency valve cam C thus raises shaft A causing valve G to open. Adjusting nuts are provided to adjust tension of the spring and also tension on valve seat H. A stuffing box is provided to keep any gasoline or other liquids from slopping out around shaft A.

LUCIUS TRUCK TANKS

A TANK FOR EVERY PURPOSE

THE LUCIUS MANUFACTURING COMPANY
UHRICHSVILLE, OHIO

Sales Offices:

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Warehouses:

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Boston, Mass.
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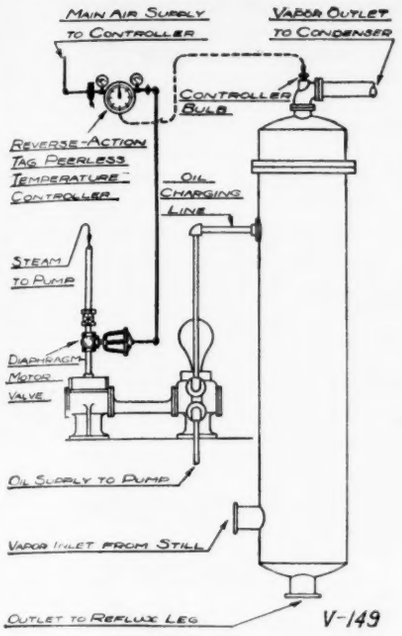
Baltimore, Md.
Washington, D. C.
Bridgeport, Conn.
Cleveland, Ohio.
Columbus, Ohio.



exit vapors tends to increase, the diaphragm valve on the inlet line is opened and the diaphragm valve on the by-pass is closed thereby allowing the maximum circulation of cooling oil through the coil when the temperature of the vapors tends to decrease, the valve on the inlet is shut and the valve on the by-pass is opened so that the oil must go through the by-pass. This arrangement is positive in action and should be used except in cases where the coil resistance to flow is considerably larger than that offered by the by-pass.

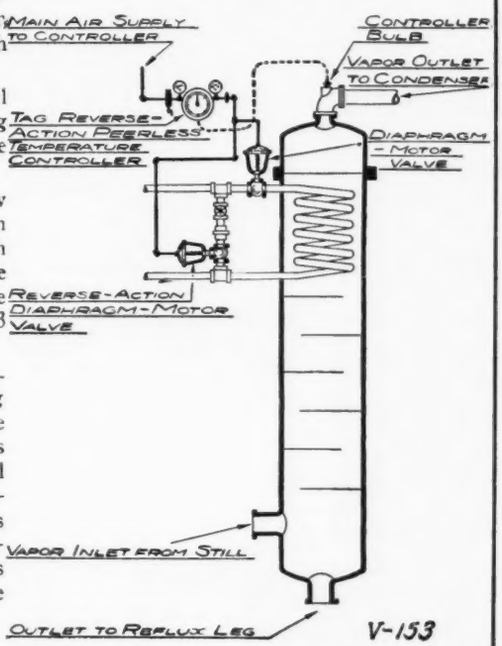
For Water-cooled Tower

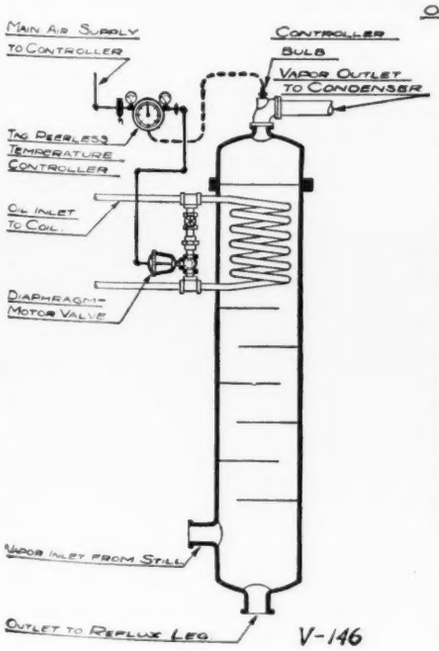
A great many towers are controlled by circulating water through a coil at the top of the tower. Control is established by regulating a diaphragm-motor valve in the water inlet by a reverse-acting temperature controller with its bulb in the vapor exit line. The steam generated in this coil is frequently used elsewhere in the refinery so that there is no loss of heat economy through the coil. In making an installation with the diaphragm-motor valve in the by-pass, there is one point which must be considered.

In some cases the friction of the oil coil in the tower is very slight, being no greater than the friction of the valve in the by-pass.

In other words, the resistance to flow presented by the coil is no greater than that offered by the by-pass. In such cases, installation should not be made as shown in diagram V-146 but the hook-up illustrated in diagram V-153 should be used.

This arrangement utilizes two diaphragm-motor valves: a direct-acting valve being placed in the oil inlet line between the by-pass and the towers while a reverse-acting valve is placed in the by-pass. Both these diaphragm-motor valves are connected by air lines to the reverse-acting Peerless temperature controller. The regulation is as follows: when the temperature of the





by this method. A typical method of installation is shown in diagram V-147. Another type of water-cooled tower is shown in diagram V-150.

For Air-cooled Tower

This type of tower is rapidly becoming obsolete since so many uncontrollable factors can affect its operation. Changes in atmospheric temperature or a sudden rain will greatly alter its cooling effect. Automatic control can be arranged if the tower is provided with adjstable damper arrangements which can be opened or closed by a diaphragm-motor lever. No illustration of this type of tower is shown because of the great number of different designs and the relatively small number of such towers in use.

Other Types of Towers

Very often the towers are a combination of the types already covered. That is, they will be fitted with both a water

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Our producing and refining facilities enable us to offer you, for distribution to your trade, quality products—each one of them carefully prepared and tested to meet the most rigid requirements. Every sale of Humble Products that you make will bring a repeat customer. This is what builds business for you.

Facilities at our refineries are such that we can take care of your wants and make prompt shipments in any quantities desired, from a carload to a shipload, by rail or by water to any point in the world.

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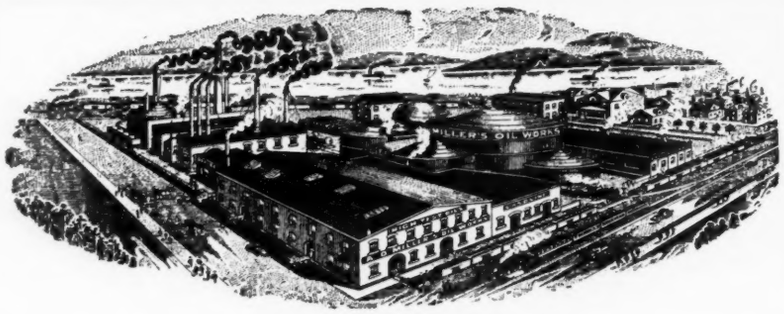

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Fire tests 600°, 635°, 650° High Viscosity.

PENNSYLVANIA MOTOR OILS

Blended to suit Jobbers specifications

In tank cars, steel drums, wooden barrels

VISCOUS PALE NEUTRAL OILS,
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All grades WATER WHITE OILS, MINERAL COLZA, GASOLINES, etc.

PITTSBURGH, PENNA.

Cable Codes: Western Union (Universal)
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Established 1862

Higher Efficiency

MULLINS SUPER-WELDED TANKS

Greater Satisfaction

TANKS of 300 gals., 350 gals., and 400 gals. capacity for 1 and 1½-ton trucks in stock for immediate shipment.

Specify "one like Wisconsin Rapids Oil Co. with Pipe Rail and Chain" or "with Hinged Panel Sides"

MULLINS BODY & TANK CO.

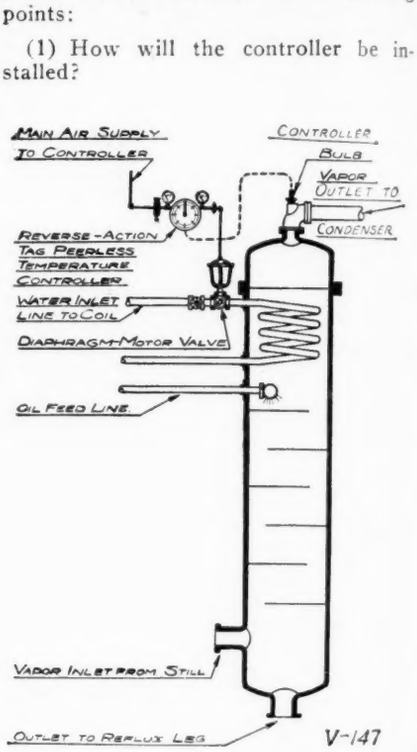
37th Ave. and Lapham St. Milwaukee, Wis.

circulating coil and an oil circulating coil. In this case control of the water coil usually is entirely sufficient to maintain the desired vapor temperature. Sometimes the towers have a water circulating coil and an oil charging spray and here again control of the cooling water inlet provides the temperature regulation desired.

Selecting the Controller

The proper selection of controller equipment is a simple mater, but one which requires care in including all the essential facts. A model questionnaire would embrace the following points:

(1) How will the controller be installed?



It is suggested that a rough sketch or blue print of installation be prepared in this connection.

(2) What length of connecting tube will be needed to reach from the bulb-stem to the controller case?

(3) What temperature is to be maintained?

(4) What range of temperature setting point adjustment is necessary? Please state the narrowest range possible because when a wide adjustment range is furnished the controller is less sensitive.

(5) What is maximum length of bulb-stem that can be placed in vapor line (or wherever the bulb-stem is to be inserted?) See "Hints on Specifying Bulb-Stems."

(6) What kind of liquid will be regulated by diaphragm-motor valve?

(7) What is the pressure of this liquid and to what extent does this pressure vary?

(8) What is the maximum temperature of this liquid?

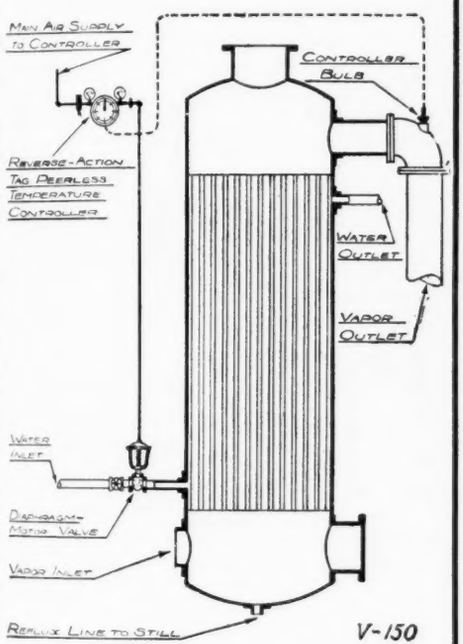
(9) Is clean and dry compressed air available for the controller? If so what is its pressure?

Bulb-Stem Length—When used in contact with vapors, the longest length

which can be readily accommodated should be specified and the bulb-stem should be installed so that it will be directly across the path of the vapors.

Separable Sockets (Wells)—In continuous processes where it is impossible to open the apparatus to the atmosphere during the run, the use of a steel separable socket (well) is recommended. The separable socket is screwed into the apparatus and the controller bulb-stem fits into it.

Should any accident happen to the controller, it can be removed from the apparatus inasmuch as the socket remains to keep the apparatus closed to



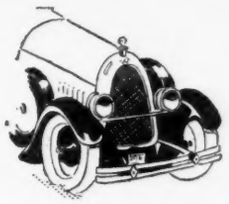
V-150

atmosphere. However, where this advantage is not important, the separable socket should not be used inasmuch as it slightly decreases the sensitiveness of the controller.

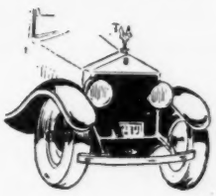
Extension Necks—If the point decided upon for locating the bulb-stem is insulated, it is suggested that a 2⅛ inch (or 4-inch) extension neck be specified for the bulb-stem. This extension neck permits the bulb-stem to be secured to the apparatus without marring the insulation by the wrench.

Material—Brass is the customary material used for bulb-stems and is entirely suitable except where the vapors or liquids in contact with the bulb-stem are corrosive when steel should be specified. Aluminum, cast-iron, monel metal, stainless steel, calorized metal, copper or lead-coverings can also be employed if necessary.

Almost every week some splendid opportunity for enlarging your business or making more money is offered on our classified advertising page. Don't fail to turn to it every week to see for yourself whether there is something in it to interest you.



Built and runs like a high grade motor car for years and years



IT is practically impossible to overload a U.S. motor. The plate valves, or seats, won't wear out. The U.S. discharges all moisture and condensation *outside* the tank, never into it. Thus it *can't* go *into the air line* to cause trouble. All parts are oiled by the splash system. They are instantly accessible.

THE UNITED STATES AIR COMPRESSOR COMPANY
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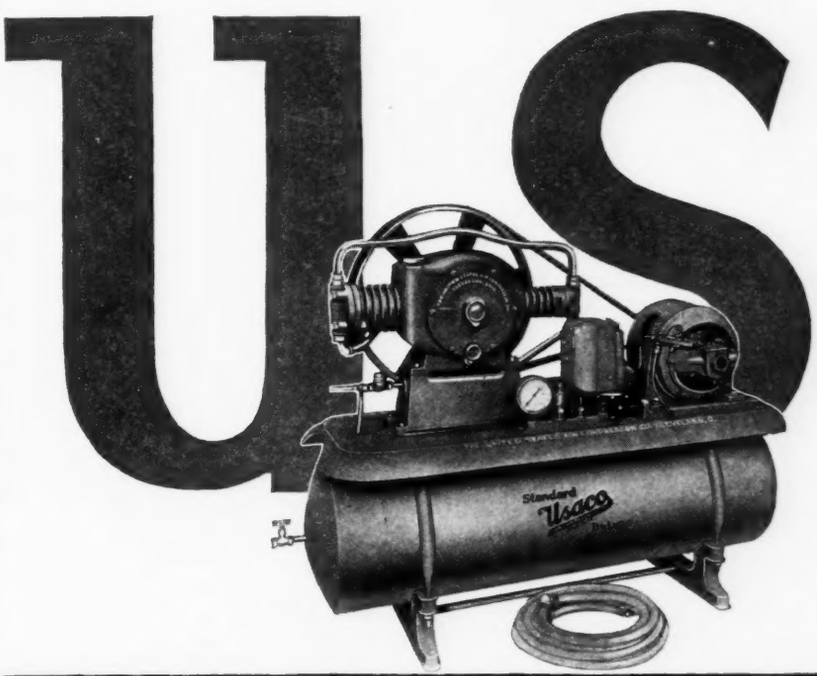

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Usaco
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Filling Stations Quincy Equipped are Equipped for Service

Air Towers With or Without Water Connections

Air for the tires and water for the radiator are the two most called for items of free service.

Locate your air hose and water connections so that cars must drive into the station yard, and you have a better opportunity of selling gas and oil than if this service is available at the curb.

A Quincy Invincible Air Tower located on the back drive is easily seen by the motorist. Its fifteen foot operating radius will reach all around a car. Of the counter balanced weighted arm type, the hose is *gradually* returned to a vertical position the water connection eliminates the constant expense of replacing radiator pails.

The Quincy Invincible Air Tower is built without frills or useless adornments, to meet the demand for a reasonably priced air tower that will stand up under the treatment given such equipment by the general public.

Get your air hose out of the mud where the public can see it.

Air Compressors for Tire Inflation, Grease Rack and Cleaning Service

Two competing grease racks side by side, one using an air gun to clean under frame, oil pan, motors, springs and brake linkage and to oil springs, frame and body joints, the other halfway cleaning springs with a steel brush and painting with oil—the air equipped greasing station will get more cars, handle them faster, do better work, have more steady customers and make more money than the rack not using air.

Quincy Silent Air Masters are the ideal type of air compressors for this profitable service. Entirely automatic, delivering a steady flow of clean dry air at full rated capacity and pressure, durable, dependable, economical in power consumption, they can be relied upon during the busiest hours of the day to deliver all the air required for this varied service.

Filling station owners who are putting air to work on their grease racks are finding it a profitable way of increasing their gasoline gallonage as well as their sales of lubricating oils and greases.

Quincy Air Specialties

Copper tubing, fittings, valves, gauges, air hose, chucks, pressure tanks, all accessories for piping and equipping your station for complete air service.

The Quincy Air and Spray Gun is a most convenient tool for spraying springs, blowing dust from cushions and upholstery, cleaning motors, blowing old oil and grease from transmissions and axles. Your grease rack is not equipped without one.

WALL PUMP & COMPRESSOR COMPANY

Specializing in Small Air Compressors and Vacuum Pumps for Service Stations, Gasoline Dispensers, Garages and Industries

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WALL PUMP & COMPRESSOR CO.,
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ECO7—NPN 9-3-24

Appraisal Of Oil And Gas Properties

By Roswell H. Johnson,
Professor Of Oil And Gas Production, University Of Pittsburgh
And
Paul Ruedemann
Appraisal Engineer And Geologist, Gen'l Mgr. Thompson & Black, Tulsa

Chapter V

LINE AND UNDERGROUND LOSS AND FIELD REDUCTION FACTOR OIL OR GAS

UNDERGROUND Loss.—The loss of oil or gas into the earth from the well after it leaves its reservoir is often very heavy and sometimes is never detected. This oil or gas may later be yielded from a higher sand into which it has flown, but often is wholly lost. The appraisal engineer ordinarily provides for efficient operating in the estimates. Still it may be that the wells taken as a basis for the valuations are the only ones suffering a loss and therefore the others are incorrectly valued.

The principal losses discussed by Ambrose[1] are given as follows:—

(1)—In recovery methods.
(2)—Through improper or unsystematic casing.
(3)—To a well out of control.
(4)—By improper drilling methods.
(5)—To perforating all sources.
(6)—By not knowing producing zone.

(1) Losses in Recovery Methods.—This subject has been especially well covered by Lewis, who gives the estimate that from 80 to 90 per cent of the oil underground is not extracted[2]. He also takes up methods of increasing the recovery.

It is important to the appraiser that efforts are being extended to this end, as otherwise estimates of production predicted by him may not be substantiated. The study involves the compressed air process, the use of regulated back pressures, of gas or vacuum pumps, and of water displacement; also questions of shooting, swabbing, the rate of pumping and cleaning out of wells and the use of acids and electrical or steam heating to increase production.

(2) Loss through Improper and Unsystematic Casing.—This accounts for much underground loss. Improper casing permits water to migrate to the oil or gas sand and frequently taps part of the contents. Another loss is through the escape of the oil or gas to higher formations. There has been much written about the various means of remedying water trouble.

(3) Loss Due to a Well out of Control.—When wells are shut in because of the lack of storage facilities or pipe lines trouble may develop, especially with large wells. If the casing is not well seated the oil or gas, under the great pressure, may break through to other formations and gradually enlarge the hole causing collapse.

(4) Losses by Improper Drilling Methods.—The loss here is mainly by migration of oil or gas to upper sands when the casing has not been properly set, while drilling is going on.

(5) Loss Due to an Upper Sand.—Loss by this means is commonest in gas fields where an operator often attempts to recover the product from more than one sand at a time. Since one of these is generally under higher closed pressure than the other, migration of "vagrant gas" is sure to occur. The upper sand may not be competent to hold a pressure higher than its natural one, or it may be tapped by wells of competitors.

(6) Losses caused by Not Knowing Producing Zone.—Large losses may be caused by the failure of the operator to realize the exact location of the producing zone. In wildcat wells, the producing sand may not be known, and with rotary drilling it may be overlooked. With cable tool wells oil may be overlooked when there is water in the hole and the sands are not tested with a bailer.

Oil

In addition to the general losses mentioned above there are certain losses particularly connected with the competition of extracting a vagrant mineral. Should the property to be valued be at a disadvantage as compared to its competitors in the following respects deduction must somehow be accomplished depending on the conditions, as compared with a property which is in all respects on a parity with its neighbors.

1. The neighboring property has wells along the boundary (even though at the standard distance for the region, from it) which are producing while the property being appraised is still only being drilled or possibly the wells have not even started. The loss of pressure still more than the loss of oil at these wells cuts down seriously the amount to be produced from the property. This of course, is variable and is greatest where—

(a) wells are largest
(b) the sand is very porous
(c) under high pressure
and (d) the pool is small in area.

Some operators have delayed drilling thinking to wait for a better price. It is too dangerous a procedure in nearly all cases where the neighbor will not co-operate.

2. If the neighbor keeps a lower pressure at his casing head by withdrawing the casing head gas faster he pushes the "tension" line from which oil flows to one or the other property, and possibly toward the appraised property with a loss to it.

3. If the neighbor places his offsets closer than usual to the boundary line, thus forcing overdrilling around the borders he will reduce the percentage of oil extracted from the central part of the lease or else drill additional ones not otherwise needed. The value of the property is thus reduced.

4. If the neighbor places his own offset wells too close together, the appraised lease operator must suffer a loss of some of his oil or a loss by extra drilling in similarly spacing his own wells.

The existence of a co-operative agreement to avoid these practices is thus a real value, whereas an avowed purpose or obvious prosecution of them is a negative element. This whether it alters revenue or expenditure.

In planning the rapidity with which wells will be brought in, which the appraiser must do, he should be guided by the express or apparent intention of the management which will own the property. If that cannnot be obtained or is for any reason improbable, he must construct the program that seems most likely to be carried out, not necessarily the wisest possible program; to make the losses as low as possible, the profits greatest.

Gas

Calculation of Line Loss.—The estimate of line loss can only be made between two or more points at which the gas is measured. Compression stations on the main lines generally measure the amount passing. The consumer's meters give the final estimate. Free gas distributed, gas purchased and gas sold between the two points should be allowed for.

Factors Affecting Line Loss.—It has been found that very few companies show any similarity in line loss for equivalent distances. The reasons are: —

1. Difference in the kind of pipe joints.
2. Efficiency in line maintenance.
3. Topography of the region.
4. Size and age of the lines.
5. The pressure in the line.

An approximate total loss of 20 per cent for each thousand miles of line, which includes gathering, transportation and distribution, has been taken as a reasonable assumption where no infor-

1—Ambrose, A. W., Underground Conditions in Oil Fields: Bull. 195, Bureau of Mines, 1921, pp. 160-166.
2—Lewis, J. O., Methods of Increasing the Recovery of Oil from Sand: Bureau of Mines, Bull. 148, 1917, p. 26.

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mation on line loss is available. This is liberal and is derived from the average of several companies operating under varying conditions. Since the range of loss for the distance was found to be from 7 to 57 per cent, specific calculation should always be made where possible.

The percentage of loss finally adopted in the appraisal should be an average for a number of years if possible. Any recent radical change in conditions would limit the period of time for historical compilations.

Underground Loss.—This loss is often material, but as a rule unknown. All calculations of production are at the mouth of the well and therefore no correction is necessary for gas lost between the producing sand and the surface. However, this unrecoverable loss means reduced revenue, and, like line loss, can be eliminated to a large degree by efficient operating. If definitely known, it would limit the use of analogous wells in making a future decline curve.

Field Reduction Factor.—The field reduction factor is the amount by which production calculated in the field differs from that estimated to be the field production from more accurate measurements. The line loss computation is for the purpose of taking measured production at some point along the line and correcting it to the field amount.

Chapter VI

ESTIMATION OF FUTURE YIELD PRODUCING WELLS; METHODS AND DECLINE CURVES

Oil or Gas

With the numerous principles and methods advanced in the last few years for the estimation of future reserves, it becomes necessary to make a choice when preparing an appraisal. Naturally the primary considerations should be accuracy and adaptability to the records available. Next in importance is the speed with which the estimates can be made. No single step affects the final results as much as the method and accuracy of calculating the reserves. If refinement is omitted in this part, then refinement throughout the remainder of the work becomes useless.

The Junior author recalls the checking of many appraisals submitted to the Internal Revenue Bureau in which the reserve estimates were so crudely made that an error of from at least 30 to 50 per cent was certain, and yet the discount factor was carried to six decimal places.

Construction of Decline Curves.—There are many methods proposed for the drawing of composite or average decline curves. The Bureau of Mines has been making a study of the advantages of each method. Nearly all methods are based on the law of equal expectations, which as expressed by the authors thereof, is as follows[1]:—

"If two wells, under similar conditions, produce equal amounts during any given year, the amounts they produce thereafter, on the average, will be approximately equal regardless of their relative ages."

The following methods to be described, are based on this law:—

1. Time decline period.
2. Percentage decline.
3. Cumulative percentage.
4. Shingling or family curve.

Although reasonably reliable results are obtained by each method, when carefully applied, they omit the important variable of the age of the well. The age-size method[2] considers this element, and for commercial appraisal will give more accurate results than the methods which omit this factor.

In the demonstration of all except the cumulative percentage curves, actual production figures taken from one pool, have been used.

Time Decline Period Curve Method (Segmental)[3].—This method is variously referred to as the Darnell or Segmental method. The name herein chosen is descriptive of the process required in construction. The method is one of those based on the law of equal expectations by Lewis and Beal.

The curve is made from arithmetical averages of the time it takes each well to decline from one given size to another.

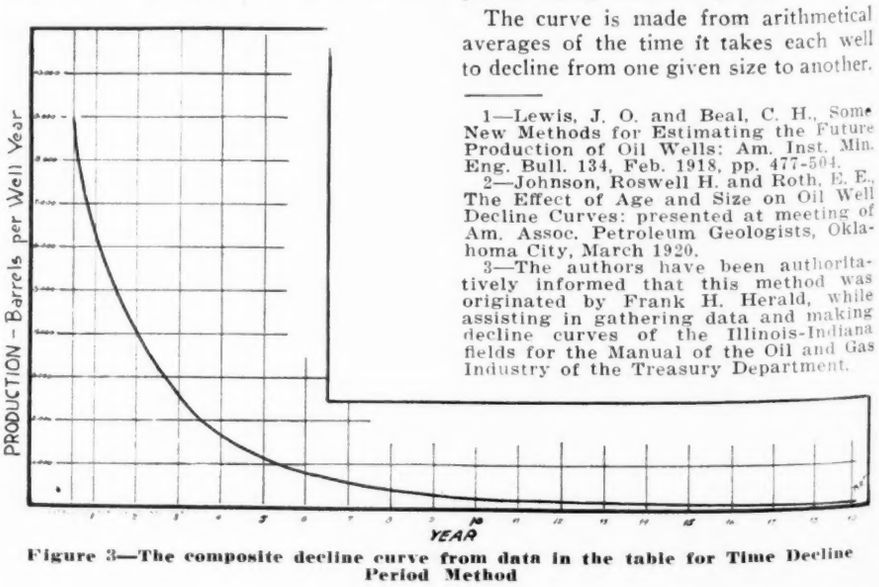

Figure 3—The composite decline curve from data in the table for Time Decline Period Method

1—Lewis, J. O. and Beal, C. H., Some New Methods for Estimating the Future Production of Oil Wells: Am. Inst. Min. Eng. Bull. 134, Feb. 1918, pp. 477-504.

2—Johnson, Roswell H. and Roth, E. E., The Effect of Age and Size on Oil Well Decline Curves: presented at meeting of Am. Assoc. Petroleum Geologists, Oklahoma City, March 1920.

3—The authors have been authoritatively informed that this method was originated by Frank H. Herald, while assisting in gathering data and making decline curves of the Illinois-Indiana fields for the Manual of the Oil and Gas Industry of the Treasury Department.

The choice of the size depends entirely upon the accuracy desired. The production data for each well were plotted on co-ordinate paper and a smooth curve drawn through the points. This facilitates the reading of decline periods and leads to more accurate results.

The following table illustrates the arrangement of data:

Tabulation Showing Time to Decline from One Given Size to Another Given Size

Gross Barrels Per Year

Well	9000 8000 yr.	mo.	8000 7000 yr.	mo.	7000 6000 yr.	mo.	6000 5000 yr.	mo.	5000 4000 yr.	mo.	4000 3000 yr.	mo.	3000 2000 yr.	mo.	2000 1000 yr.	mo.	1000 500 yr.	mo.	500 250 yr.	mo.	250 50 yr.	mo.	50 Ec.Lt* yr.	mo.
1		2		2		2¾		2½		2½		8		11	2	6	1	4	1					
2				2		2		2½		3		3		5½		10	1	7						
3				3½		4		3½		5		5½	1	1½	1	10	2	3						
4								2½		3		2½		3		9	1	10						
5							1	1	1	4	1	9	2	8	7	7								
6										3		4		4		8½	3	4						
7														10	1	6	2	0						
8																	1	8	1	4				
9																			1	4				
10																	1	1	2	2½				
11																			1	10				
12																			3	2	11			
13																			2	10				
14																			1	5				
15																			2	5	3			
Total		2		7½		8½	2	0	2	8½	3	8	6	7	15	8½	15	2	16	8½	14		4	
Average	0	2	0	2½	0	3	0	6	0	5	0	7	0	10½	2	3	1	10	2	1	7		4	
Cumulative	0	2	0	4½	0	7½	1	1½	1	6½	2	1½	3	0	5	3	7	1	9	2	16	2	20	2

To read future production, take the average per year prior to the date of estimate and find the point of intersection of the curve with the horizontal line representing the amount, thence one year to the right on the curve and read the first year's production, and so on for each year.

Percentage Decline Method.—This method was developed by Carl H. Beal[4] and was first used by him in making composite curves of Osage County, Oklahoma, wells for the Bureau of Mines.

The production for each well the first year is called one hundred per cent, and each succeeding year is listed as a percentage of the first year's production. The curve is prepared from a table in which the percentages are arranged in relation to years from the first year. With the same wells already given in a previous table, the following tabulation was made:

Tabulation of Data Showing Method Used in Computing the Composite Decline Curve by the Percentage Decline Method

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Well 1	100	41	27	15	12	7	5	2	4	2						
Well 2	100	42	12	7	7	6	6									
Well 3	100	60	31	21	20	12	10									
Well 4	100	82	63	55	43	45	37	30	30	25	21	17	17	16	15	14
Well 5	100	24	12	9												
Well 6	100	34	14	11	10	7										
Well 7	100	98	75	24	14	23	20	14								
Well 8	100	43	44	28	13											
Well 9	100	66	35													
Well 10	100	51	32	29	23	18										
Well 11	100	92	57	39	29											
Well 12	100	69	59	36	34	32	28	25	20	19	18	18	11	11		
Well 13	100	61	45	40	36	31										
Well 14	100	57	41	40	20											
Well 15	100	85	43	49	23	10										
Well 16	100	38	33	35	7											
Well 17	100	55	79	76	57	47	52	46	14							
Totals	1700	998	702	505	348	238	158	117	68	46	39	35	28	27	15	14
No. Cases	17	17	17	16	15	11	7	5	4	3	2	2	2	2	1	1
Average	100	59	41	32	23	22	22	23	17	15	20	18	14	13	15	14

Having found the average percent for each year, the next step is to construct a decline curve. Instead of production, a percentage scale is placed on the ordinate of the graph sheet and years on the abscissa. After plotting the averages found, it may be necessary to draw a smooth curve through the points.

As stated before, flush production is all in the same relative position on the curve. Since the annual future of any well is a percentage of the first year, all production is determined by using the consecutive percentages. Although the method is simple of application, it is objectionable, as the rate of decline in the early years varies so greatly with size. This is due to the omission of the age factor.

Cumulative Percentage or Appraisal Method.—The term "Appraisal Curve" is used by Beal[5] in the description of a new method, but was originated by him and Lewis[6] in an earlier publication. Since a conflict with "valuation curves" herein discussed is likely to arise, the term "cumulative percentage" is being applied.

The percentage decline curve previously described is used as the basis for the cumulative percentage curves. The percentage decline curves are made for as many properties as comprise the group or pool. Each curve is projected to its minimum economic limit. Each year's production is given as a percentage of the first year's production. The sum of these percentages to the economic limit gives the ultimate cumulative percentage.

To construct the curves, the ultimate cumulative percentages for the group or pool are plotted on rectangular coordinate paper, using a lower scale of average daily production the first year and a left scale of ultimate cumulative percentage per well. The points are plotted in scatter diagrams.

The maximum cumulative percentage curve (see Fig. 5) is drawn so that nearly all points lie below it and the minimum cumulative percentage curve at the bottom of the diagram so as to bound the dots on the lower side. The average cumulative percentage curve is taken as a mean between the two.

From the production figures for the cumulative percentages, ultimate production curves are drawn. These facilitate the reading of future production, both as ultimate and annual amounts.

The points of the production curves are obtained by plotting the ultimate production figures for a number of wells of various sizes, as found in the above paragraph. The points are plotted on the same graph with the percentage curves, using the right scale of ultimate production, and the lower scale of daily production per well the first year, or the upper scale of first year's production per well.

It is to be noted that production so far is always obtained as ultimate, minimum, average or maximum, and not by annual units as desirable for analytic appraisal. To accomplish this, it is necessary to reverse the procedure taken in finding ultimate yield.

This method overcomes some of the objections to the percentage decline method in that the curves depend more on past performance. Where only a few properties are used, it might be advisable to give more weight to properties with many wells than those with only a few wells. This can be done by symbols alongside the points.

The chief disadvantage of the method is the enormous amount of calculation involved, the large number of wells required, and the personal equation. About sixty wells are represented on

4—Beal, C. H., The Decline and Ultimate Production of Oil Wells, with Notes on the Valuation of Oil Properties: Bureau of Mines, Bull. 177, pp. 29-30.

5—Beal, C. H., The Decline and Ultimate Production of Oil Wells, with Notes on the Valuation of Oil Properties: Bureau of Mines, Bull. 177, 1919, p. 30.

6—Lewis, J. G. and Beal, C. H., Some New Methods for Estimating the Future Production of Oil Wells: Am. Inst. Min. Eng. Bull. 134, Feb. 1918, pp. 477-504.

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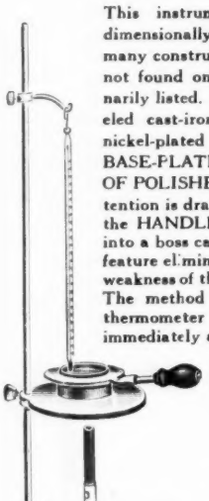

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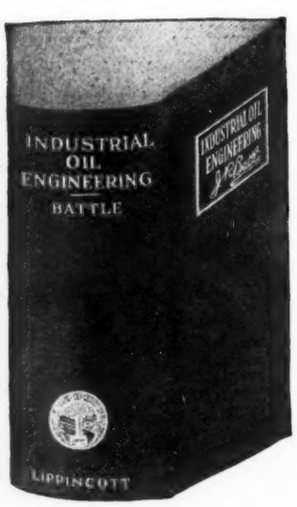

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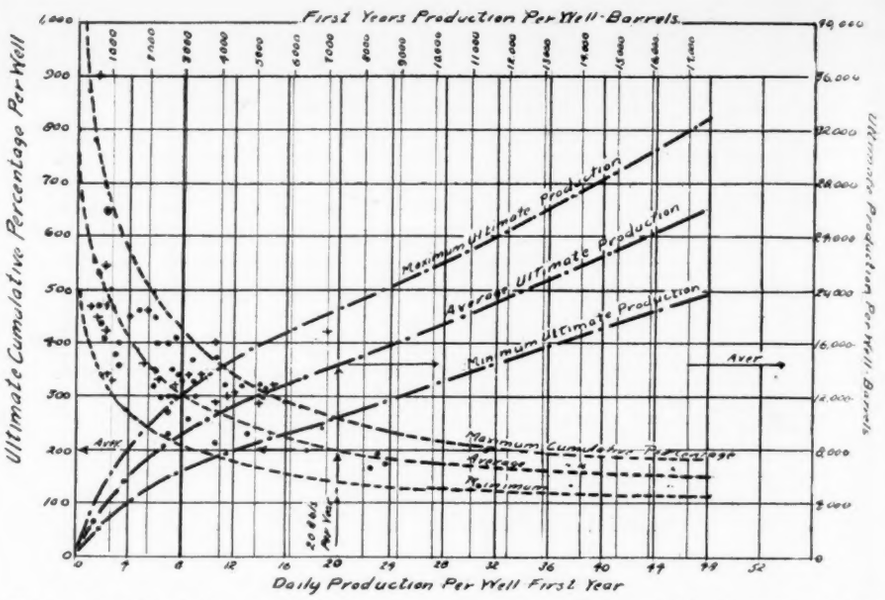


Figure 5—Cumulative percentage curve of the Crawford and Clark county fields, Illinois. The dots represent the ultimate cumulative percentage per well of properties in the Crawford county field and the crosses represent the corresponding percentage per well of properties in the Clark county field. (After Beal)

the diagram and still the personal equation is high.

Shingling or Family Curve Method.—Where few wells are to be used, this method is most practicable. It was developed by Lewis and Beal to utilize their law of equal expectations[7]. The name "shingling" as well as "horse tail" is descriptive of the appearance of the graphs as arranged in this method. The results obtained approach most nearly those found by the "Time Decline Period Method". This is because the principles and execution are similar except that one is graphical and the other arithmetical.

The wells are first arranged in order according to size the first year. With production on the ordinate of a sheet of co-ordinate paper, and years on the abscissa, each individual well is plotted on the sheet. The largest well is drawn in first, the second largest well curve is started on a point the first well curve representing its size the first year. This ordinate point is the first year for this well and its second year is on the ordinate one year's distance to the right. The third well is started on the horizontal line representig its size but at a point where the mean of the wells already plotted crosses this horizontal line, and similarly for each successive well. After a number have been plotted, it becomes more and more difficult to find the mean or starting point for the unplotted wells. These beginning points serve as the guide in drawing the composite curve. If extrapolation is necessary the procedure outlined for the arithmetical method is followed.

Instead of taking the horizontal mean to find the starting point for the new curve, it is often found by taking the vertical average at a place approximately where the new curve is expected to begin and projecting a curve from previously ascertained average points through the last one found. The place of starting for the well to be attached is where the horizontal line representing its size the first year crosses this projection. The Oil & Gas Manual suggests this method of averaging.

In cases where some of the wells are aberrant and speed is essential, the median (the middle curve) or the "central tendency" can be estimated by eye. This is frequently more reliable than the calculation and especially so in the

7—Lewis, J. O. and Beal, C. H., Am. Inst. Mining Eng., Bull. 134, Feb. 1918, pp. 499-500.

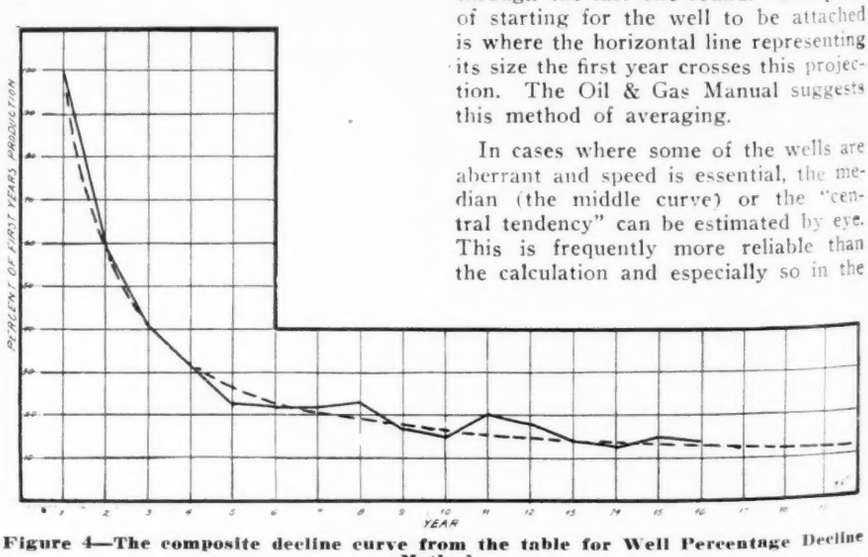


Figure 4—The composite decline curve from the table for Well Percentage Decline Method.

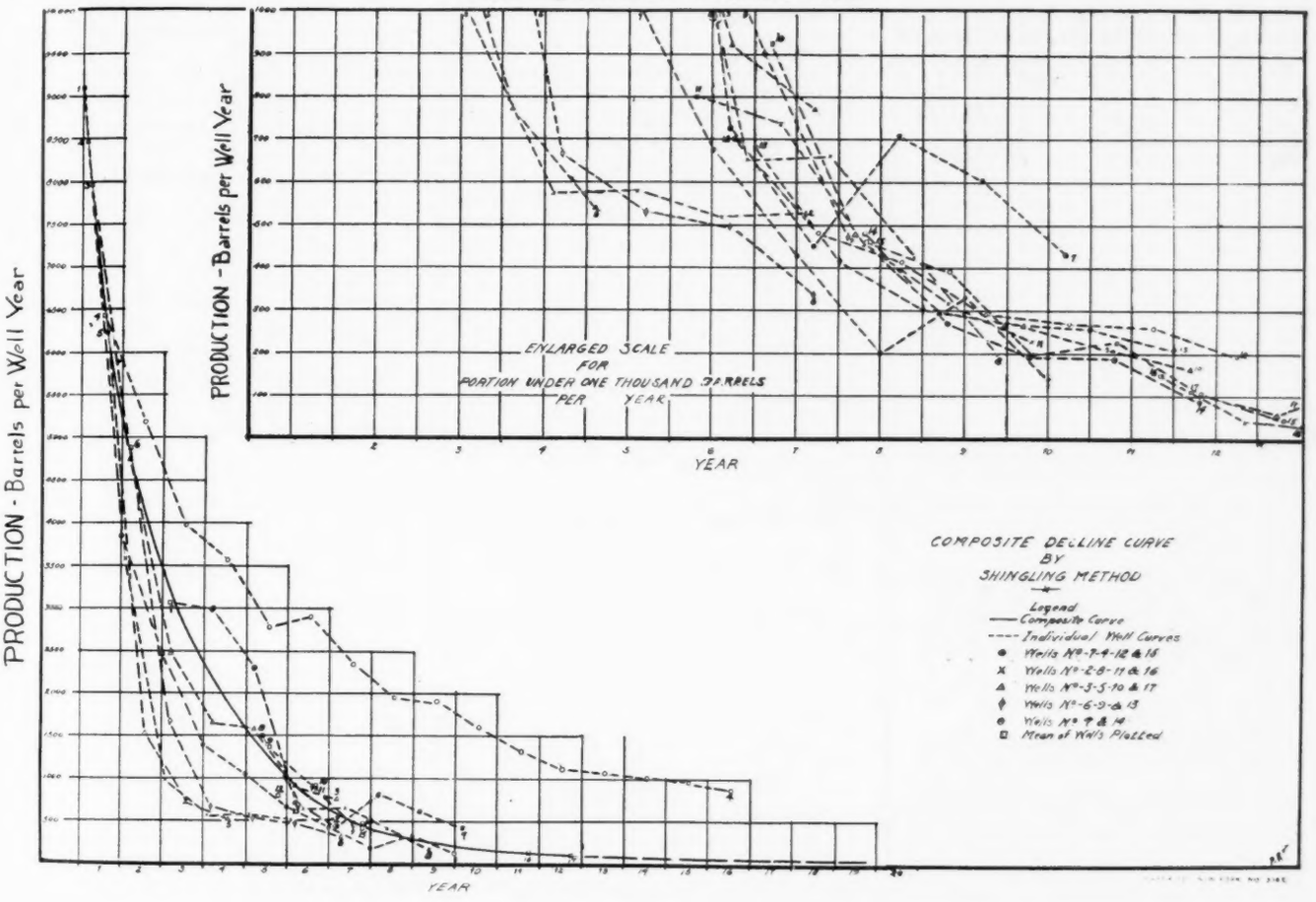
case just described, in which (see Fig. 6) well No. 4 appears to be abnormal and with so few wells being used it has an undue influence in the results, where the mean is used.

If the numerous decline curves are averages of groups of wells, weighting by the number of wells producing for each curve is essential to get accurate mean points for starting wells not yet plotted on the graph.

The error in the shingling method is the same as that for the time period method. It is slow of application when there are many curves to be combined. In fact, where the curves exceed nine, it is often necessary to divide them into sets and then make a shingling curve of the resulting curves. In other words, a two stage construction is used.

Chap. 6, Part II will be in an early issue.

Figure 6—Construction of the composite decline curve by the Shingling Method. The horizontal means are used to get the beginning points for successive wells.


PRODUCTION - Barrels per Well Year
PRODUCTION - Barrels per Well Year
ENLARGED SCALE FOR PORTION UNDER ONE THOUSAND BARRELS PER YEAR
YEAR
YEAR
COMPOSITE DECLINE CURVE BY SHINGLING METHOD
Legend
Composite Curve
Individual Well Curves
Wells Nos 7-9-12 & 15
Wells Nos 2-8-11 & 16
Wells Nos 3-5-10 & 17
Wells Nos 6-9-13
Wells Nos 7 & 14
Mean of Wells Plotted

NEW OIL STATION CONSTRUCTION

Madison, Ind.—Charles Woodfill, opened filling station, handling Champion Hi-Power gasoline and motor oils and Mobiloils, according to E. C. Storm, owner of the Tri-Point Oil Co., North Madison.

* * *

Goodland, Kan.—Rex Kent, who owns several filling stations between Almena and Rexford, Kan., will build filling station at Goodland.

* * *

Pratt, Kan.—Golden Rule Oil Co. purchased property for filling station. It operates three other filling stations here and bulk station.

* * *

Lansing, Mich.—Morden Oil Co., distributor for Indian gasoline and Havoline oils, recently opened filling station here and expects to build others.

Hallettsville, Tex.—J. E. Kuhne building filling station here, to be occupied by Runge Tire Co., of which Mr. Kuhne is proprietor.

* * *

Columbus, O.—Accurate Measure Oil Co. recently opened its 17th filling station here, handling Am-Co brands of gasoline and lubricating oils.

* * *

Washington C. H., O.—J. E. Smith Oil Co. purchased property on "the point" on which it will erect filling station.

* * *

Atlantic, Ia.—Standard Oil Co. of Indiana expected to open its filling station on Aug. 18.

* * *

Hutchinson, Kan.—A. F. Koch building filling station.

Rockford, Ill.—Smith Oil & Refining Co. purchased two additional acres for installation of additional fuel oil storage tanks. It expects to install 250,000 gallons for storage.

* * *

Wichita Falls, Tex.—Permits to build filling stations here recently granted to Gulf Refining Co., R. J. Yax and J. B. Warren.

* * *

Burlington, Wis.—Lockwood Oil Co. opened filling station recently, and expect to add pumps when business warrants.

* * *

Parsons, Kan.—Victor Louthan building filling station, to be known as Victor Filling Station.

* * *

Memphis, Tenn.—J. R. Boarman purchased filling station of Reed Oil Co. here for consideration said to be $25,000.

* * *

Louisville, Ky.—Diamond Petroleum Co. granted permit to erect filling station.

* * *

Galax, Va.—Higgins Oil Co. recently opened a filling station here, handling

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Sinclair products. Storage tanks of 40,000 gallons' capacity have been installed and lubricating oil storage tanks may be purchased soon, the company announces.

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El Paso, Ill.—C. O. Massey has just completed a garage and filling station at Corn Belt and Swanson highways at which he will handle Swanson Oil Corp. products.

* * *

Polo, Ill.—Barbour Hayden is building a service station with battery shop and refreshment parlor in connection. The site is on state highway No. 26.

* * *

Charlottesville, Va.—Calhoun-Watts Motor Co. of Charlottsville, will open a new station soon to handle Texaco products.

* * *

Geneva, Ind. — Willis Glendening building filling station. O. W. Ferris purchased property for filling station.

* * *

Crozet, Va.—L. C. Rosenkrans has opened station in Crozet. He handles Texaco products.

* * *

Fort Dodge, Ia.—Community Service Co. purchased house which it will remodel into filling station.

* * *

Charlotte, Mich.—American Oil Corp. headquarters at Jackson, Mich., purchased site for filling station.

* * *

Clay City, Ky.—Daniel Scott installing filling station at his place of business on Ky-Va highway.

* * *

Lewisburg, O.—White Star Oil Co. to erect filling station at West Alexandria, O.

* * *

Silvis, Ill.—First Standard filling station to be built here by Standard Oil Co. of Indiana.

* * *

Frankfort, Ind.—Standard Oil Co. of Indiana expected to build filling station here.

* * *

Pekin, Ill.—F. Hamann to build filling station.

* * *

Emporia, Kan.—Work started on filling station for Standard Oil Co. of Indiana.

* * *

Galesburg, Ill.—Filling station being built by Fred Maley.

* * *

Hutchinson, Kan.—Skelly Oil Co. applied for permit to build filling station.

* * *

Tell City, Ind.—Standard Oil Co. of Indiana expected to build filling station.

* * *

Bloomington, Ill.—Crosbie Oil Co. to erect filling station.

* * *

Galveston, Ind.—Sinclair Refining Co. to build filling station here.

* * *

Chicago—Hamilton Bros. to erect filling station.

Cedar Rapids, Iowa—Pilicier & Abramivich Oil Co., recently organized, opened a filling station Aug. 23. The station is fashioned after a Dutch windmill.

* * *

Grundy Center, Iowa.—Frericks Oil Co., managed by John Frericks is building an attractive service station here. It handles Texaco products.

* * *

Mattoon, Ill. — Roxana Petroleum Corp. opened a service station here Aug. 9. C. T. Law, the agent, says trade was better than the company expected.

* * *

Connersville, Ind.—Indian Refining Co. is putting in a bulk plant here. L. Church is building a service station.

* * *

Denison, Iowa—The Shaffer Oil & Refining Co. is completing a service station here.

* * *

Rocky Mount, Va.—Central Garage Inc., is installing several wayside stations around here.

* * *

Greenville, Ill.—Standard Oil Co. of Indiana to build filling station here, it is claimed.

* * *

Petersburg, Ill.—Filling station being erected for Illinois Independent Oil Co.

* * *

Marshall, Ill.—Standard Oil Co. of Indiana purchased site for filling station.

* * *

Winamac, Ind.—Standard Oil Co. of Indiana purchased site for filling station.

* * *

Waynetown, Ind.—Sinclair Refining Co. leased property for filling station.

* * *

Greencastle, Ind.—C. W. Tribby building filling station.

* * *

Keokuk, Ia.—Armould Independent Oil Co. to build filling station.

* * *

Durand, Mich.—Standard Oil Co. of Indiana building filling station.

Here & There

Charles W. Miller, field manager for the Ohio Refining Co., Cincinnati, in Indiana and Kentucky with headquarters at Walton, Ky., is a grandad and highly pleased with the fact. The grandchild is a boy and the son of his daughter, Mrs. Ernest Glover, Covington, Ky.

* * *

Wesco Oil Co., Spokane, Wash., is distributing to Spokane motorists a vest pocket booklet in which one may keep complete gasoline, oil, battery, tire and insurance records in addition to a car and identification record. The company

also issues a light metal plate 1¾ by 3 inches which may be attached to the instrument board where it reminds the motorist of when to change motor oil, grease the chassis, lubricate the wheels, transmission and differential and have the battery tested. Figures may be written on with lead pencil or ink and easily erased.

* * *

J. P. Gwaltney, station agent and general salesman for the Standard Oil Co. at Asheville, N. C., has recently been broadcasting this short epic, a paraphrase on a well known song that became less popular after the arid wave swept the United States about five years ago:

My Bonnie leaned over the gas tank,
The height of the contents to see,
He struck a match to assist him,
So bring back my Bonnie to me.

Before signing off, Mr. Gwaltney reports that business is unusually heavy for this season at Asheville and that all hotels are full in spite of the fact that two new ones have just been opened.

* * *

A. J. Pfister left the Midco Petroleum Co. on Sept. 1. He was manager of sales for the refineries and casinghead plants of the petroleum company and the Midco Gasoline Co. for seven years. He is taking a vacation at his summer cottage at Ginger Blue Lodge, Lanagan, Mo. He has no definite plans for the immediate future.

* * *

William J. Clapper & Son, Wolcott, N. Y., has installed a 26,000-gallon storage tank bringing its total storage facilities up to 46,000 gallons. The company also has put in three 10-gallon visible gasoline dispensers.

* * *

Henry P. Bolt, for eight years in the sales organization of the Fred G. Clark Co., Cleveland, has joined the forces of Wall & Steigerwald, Inc., Cleveland, Mr. Bolt will have his office at 174 Lovering Ave., Buffalo, N. Y.

* * *

R. A. Martin, clerk at the bulk station of the Standard Oil Co. at Upper Sandusky, O., has been transferred to Bellefontaine, O., in a similar situation. P. E. Getz, sub-agent at Upper Sandusky, is filling the vacancy for the president.

* * *

J. G. Deshler of Asheville, N. C., recently started marketing a benzol blend. Mr. Deshler has two storage tanks and a fill rack at Biltmore. Offices also are there.

* * *

Ernest Rilay, truck driver for the Freeman Oil Co. at Salem, O., has been promoted to station manager for the same company at Canton, O.

* * *

Jesse Wyatt, Smith Center, Kan, has sold his filling station there to J. O. Smith.

* * *

Charles Peterson has been made agent for the Standard Oil Co. at Pecatonica, Ill.

What Is a Sample Worth?

THAT depends on what it accomplishes. And what it accomplishes depends on various things—among them the appearance of the sample itself.

Our clear, brilliant flint glass sample oil bottles have a high batting average when it comes to making a favorable impression on the buyer.

The ground and polished bottoms and square transparent shoulders are a great aid in making color and viscosity tests. Light is permitted to pass through container and contents undeflected, thus assuring inspection under the most favorable circumstances.

Available in 2 oz., 4 oz., and 8 oz. sizes with ground and polished bottoms when specified.

We will be glad to submit samples and quote prices upon request.

Illinois Glass Company

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"Bottles of Every Description"

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Buffalo, N. Y.	Detroit, Mich.	Nashville, Tenn.	St. Louis, Mo.
Chicago, Ill.	Kansas City, Mo.	New Orleans, La.	St. Paul, Minn.
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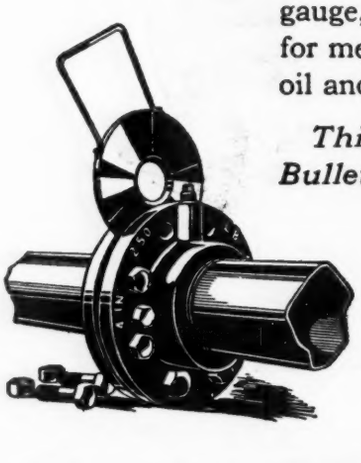
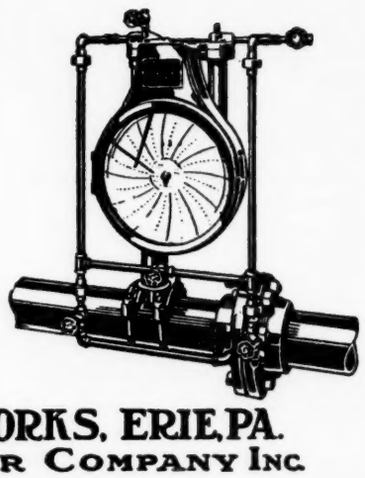
			Seattle, Wash.

METRIC METERS

One type of meter which includes gauge, flange, disc and connections for measurement of gas, air, steam, oil and water.

Think this over and write for Bulletin No. 116.





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CANFIELD AXLE GREASE
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Oil Co. Cleveland

The 3 In 1 Grease Bucket

THAT'S it—three operations with one Attwood No. 1 Valveless Grease Bucket.

You can pump the old grease out of the differential and transmission, wash the gears with a quart or two of kerosene and fill with fresh grease. All this is done without disturbing the grease in the cabinet—the complete operation taking only a few minutes.

No. 1 Valveless Grease Cabinet

If you aren't serving your customers with an efficient Attwood, write us for further information and prices on our No. 1 Valveless type.

Attwood Brass Works, Inc.
Grand Rapids, Mich.

Oklahoma Output Highest In Year Up 8,235 Barrels In July

TULSA, Aug. 28.

DURING July, Oklahoma production attained a new high record for 1924, with a daily average of 495,787 barrels, as compared with June's average of 487,552 barrels. This increase of 8235 barrels was considerably less than the jump of 39,522 barrels recorded in June as compared with May, but is a substantial increase nevertheless, and kept the state's output on the upward course that has been in progress since last December.

The daily average during July was not only the highest of the current year, but also was the highest since the corresponding month of 1923, when the state averaged 512,724 barrels daily. The peak of 1923 and of all time so far, was reached in June, 1923, when a daily average record of 534,838 barrels was attained.

Oklahoma production at present is higher than the daily average given above for July of last year, and indications are that it will equal or exceed the peak of last year within the next 60 days. It is likely that the monthly estimate for August will reflect another large increase similar to that recorded in June, due to large gains being made by Tonkowa and Cromwell.

Cromwell was by far the outstanding factor in the increase shown in July over June, as that field gained 17,406 barrels to a daily average for the month of 42,745 barrels. It is now producing more than 65,000 barrels daily, and will show a larger increase in August than it did in July. As an index to the rapidity with which this field has forged ahead in production, it may be recalled that in May its daily average was 9414 barrels, jumping to 25,339 barrels in June, and to the figure already given for July. The field's productive area was considerably enlarged by developments early in the current month and all bets are off as to its ultimate maximum production and final limits.

Tonkawa averaged 37,038 barrels daily in July, an increase of 1336 barrels over June and was therefore only a small contributor to the gain of the state as a whole. The sensational rise of this field since the new deep wells began coming in in numbers started during the current month, so that this did not affect the field's performance during July. The small increase mentioned came from the three deep wells which had been in for some time. The field is now producing probably 75,000 barrels daily, with 10 wells in the deep sand producing more than all the other 680 wells put together. This field's daily average for August probably will show one of the largest increases on record for a 31-day period.

The Papoose field, Hughes county, which is now producing 13,000 barrels, averaged 8352 barrels daily during July, an increase of 2867 barrels over June. In May, this field averaged only 2525 barrels, moving up to 5485 barrels in June. Except for minor changes in more settled fields, the figures given include all active fields that showed decided increases during the month under review.

Among fields that fell off during July, cutting the state's average down to one-half of the gain recorded by Cromwell, the largest decline was shown by Burbank, which went off 6855 barrels in daily average to 85,044 barrels a day, as compared with 91,899 barrels in June. Burbank's course was steadily downward during the month, and is now around 77,000 barrels daily.

Stroud was another field that showed a substantial decline in production during July, going off 3396 barrels to a daily average of 19,316 barrels. This field declined steadily from the week of June 14 to the week ending Aug. 2, when it increased about 2900 barrels, but has since again gone into a decline, and is now producing 17,820 barrels daily. Wewoka, which registered a considerable increase in June, fell off in July, losing 633 barrels to a daily average of 7839 barrels. This field started the month making 9140 barrels daily, but was down at 7270 barrels during the week ended Aug. 2.

Southern Oklahoma declined slightly in July, going off 1019 barrels to a daily average for the 13 fields in that section, of 74,694 barrels. Graham, Healdton, and Hewitt, the principal southern fields, all showed small declines, while the general tendency of the district as a whole was downward. Graham's decline was the first it has registered in several months, its course having been slowly upward for some time past. Healdton and Hewitt have been around their present figures for a long time, and, while they are declining steadily, are making fine records for sustained production.

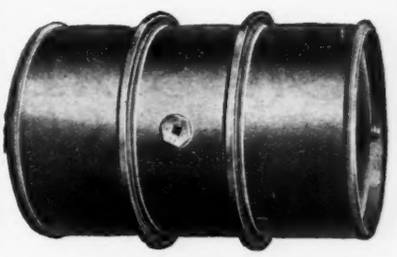
Daily average production of some of the principal fields of Oklahoma, by weeks during July, was as follows:

Week Ending	Burbank	Cromwell	Papoose	Stroud	Tonkawa	Wewoka
July 5	89,260	33,080	7,405	22,240	35,725	9,140
July 12	87,460	38,150	7,440	19,540	36,245	8,295
July 19	85,500	42,550	8,645	18,290	37,000	7,600
July 26	82,685	47,650	8,890	16,810	38,130	6,890
Aug. 2	80,315	52,295	9,380	19,700	38,090	7,270
Average for month	85,044	42,745	8,352	19,316	37,038	7,839

Production in Kansas recorded a substantial increase in July, marking the fourth consecutive month in which the

"Next week you will see the chart of Efficient Buying."

Old Man Oil
(*Himself*)



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Black—Hot Galv.—Tinned

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Los Angeles: Du Val-Kirk Co., Marsh-Strong Bldg.
Dallas; The Dent Co., Insurance Bldg.
Houston; The Dent Co., 1018 Leeland Ave.

Columbia Steel Shippers
10-15-20-30-35-40-50-55-60 Gals.
Also with 9" and 15" Friction openings

Gasoline and Oil Filling Stations

and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.

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FOR over thirty years we have been supplying our trade with all products of petroleum, including the unexcelled lubricating oils for which Pennsylvania Crude is noted.

Yet throughout all our years of service we have kept pace with progress, not only as regards refining processes but in our methods of doing business.

We will welcome the opportunity of adding your name to our list of regular customers.

The Perfect Tank

A size for every demand. Low center of Gravity and neat in appearance.

Write for prices and descriptive literature

The Owosso Boiler & Welding Co. **Owosso, Michigan**

state has boosted its output. During July, its production went up 2850 barrels to a daily average of 80,095 barrels, as compared with 77,245 barrels in June. Cowley county, with its new prolific field in the Rainbow bend district, again led the state in increased production, going up 1600 barrels to a daily average of 6000 barrels, and is now producing better than 8000 barrels daily. Greenwood county remained almost stationary, recording an increase of only 350 barrels to a daily average of 24,050 barrels. Production carried under the heading of miscellaneous, in the eastern part of the state, was increased through developments near Independence, where several large wells have been brought in. In the western miscellaneous, including Russell county, a small increase was shown.

Oklahoma's production by months, since it reached its peak in June, 1923, has been estimated by National Petroleum News as follows:

Month	Estimated Daily Average Production
June, 1923	534,838
July	512,724
August	467,062
September	432,017
October	400,303
November	391,587
December	386,490
January, 1924	388,094
February	415,787
March	412,512
April	434,571
May	448,030
June	487,552
July	495,787

Estimated daily average production of the various fields in Oklahoma and Kansas during June and July is shown in the accompanying table:

Estimated Daily Average Production of the Mid-Continent Field for June and July, 1924

North Oklahoma— Field	June	July
Allen	345	295
Bald Hill	3,775	3,625
Billings	570	550
Beggs district	9,015	9,025
Bird Creek, Skiatook, Flat Rock	4,850	4,650
Bixby	1,138	1,145
Blackwell	2,570	2,865
Boynton	825	625
Broken Arrow	863	962
Burbank	91,899	85,044
Cleveland	4,712	4,658
Continental	16,083	14,875
Coweta	1,250	763
Cromwell	25,339	42,745
Cushing	23,492	23,325
Depew	22,550	21,750
Garber	5,246	5,390
Glenn Pool and Red Fork	14,750	13,200
Henryetta	750	1,000
Jennings	2,250	2,388
Kellyville-Bristow	2,000	1,900
Kingwood	1,275	1,200
Lyons	5,500	5,400
Mannford	1,385	1,448
Mervine-Newkirk	470	520
Morris	2,375	2,315
Mounds	4,975	4,625
Muskogee	325	350
Okemah	532	625
Osage, except Burbank	47,000	48,000
Ponca City	985	1,010
Papoose	5,485	8,352
Slick	4,625	4,475
Stone Bluff	800	825
Stroud	22,712	19,316
Tiger Flats	7,900	8,550
Tonkawa	35,702	37,038
Washington-Nowata Co.'s	10,950	11,700
Watchorn	2,060	2,559
Wewoka	8,472	7,839
Yale-Ingalls	6,851	6,875
Miscellaneous	7,188	7,300
Sub-total	411,839	421,093
Southern Oklahoma—		
Brock	1,050	1,150
Cement	2,125	2,123
Comanche	905	850

Duncan	7,565	7,495
Fox	2,500	2,525
Graham	16,500	16,250
Healdton	16,225	16,100
Hewitt	21,375	20,875
Kilgore	105	110
Loco	2,075	2,213
Robberson	3,900	3,675
Sayre	328	293
Walters	1,060	1,035
Sub-total	75,713	74,694
Total Oklahoma	**487,552**	**495,787**
Increase		8,235
Kansas—		
Augusta Douglas	3,750	3,750
Eastern Butler County, Blankenship & Sallyards	3,050	2,950
Cowley County	4,400	6,000
Elbing Peabody	8,075	7,925
El Dorado	16,200	16,100
Florence Covert	3,487	3,435
Fox Bush	3,950	3,725
Greenwood County	23,700	24,050
Leon & Weaver	1,300	1,175
Miscellaneous, Eastern	8,600	10,000
Miscellaneous, Western	733	985
Total Kansas	**77,245**	**80,095**
Increase		2,850
Total Mid-Continent	**564,797**	**575,882**
Increase		11,085

Survey Made Of Canada's Helium Resources

NEW YORK, Aug 28.—The American Chemical Society has been conducting a survey of the Canadian natural gas and helium resources, in view of the proposed airship service from Great Britain to India and Australia. Samples of gases have been collected and analyzed. The work follows similar activity in the United States, which is thought by federal investigators to possess a practical monopoly of the world's helium supply.

"Ontario and Alberta are the only provinces in Canada in which natural gas occurs in commercial quantities," says the Chemical Society's Canadian report. "Several gases in Ontario have a helium content of about 0.3 per cent, especially those from Brant and Haldimand counties, but the supplies are from small wells in declining fields.

"In Alberta the Bow Island field is also showing signs of exhaustion. It was calculated in 1916 that about 12 million cubic feet of helium a year could be extracted from the gas supplied to Calgary alone, but it is probable that this estimate was too high, and with the present annual output of gas the helium available would undoubtedly be much less.

"It is also pointed out that Calgary is no longer a suitable location for an extraction plant, as the gas now supplied to the city is a mixture of gases from the Turner Valley and the Bow Island fields; the helium content of gas from the former field is very low.

"One new source already discovered is the field at Foremost, 40 miles south of Bow Island. The first well drilled in this area has an open flow of 15 million cubic feet of gas per day; the helium content of this gas is 0.2 per cent.

"It is estimated that about 15 million cubic feet of helium can be extracted annually from the natural gas wells in southern Alberta. The cost would be proportionally greater than in the United States, where gas of 0.94 per cent helium content is treated."

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General Sales Offices
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REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

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GAS OILS
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Fuel Oil--Lubricating Oils

CYLINDER ENGINE
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RED AND PALE PARAFFINE OILS

ROOTS

ROOTS Bulletins on Rotary Pumps, Rotary Vacuum Pumps and Roots Engineering Tables should be in the files of every refinery engineer.

The equipment described in these bulletins offers means for economy in pumping not obtainable with any other type pumps.

ROOTS

The P.H.&F.M. ROOTS CO.
DEPT. 46
CONNERSVILLE, IND.

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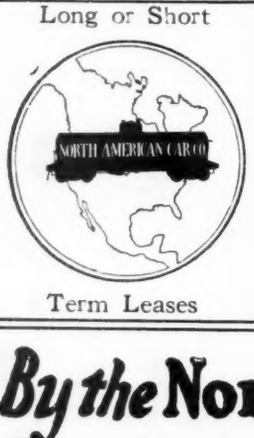
for LEASE at Attractive Rates Tank Cars in perfect Condition

Long or Short



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Shippers like North American car-leasing service because of the practical advantages that it offers:

—N. A. T. X. cars always report in top-notch condition (we keep them that way in our own three modern repair shops;

—our fleet includes tank cars of every kind and for every purpose;

—current rates are low enough to make it more economical to lease than to buy.

A few N. A. T. X. cars are still available. We urge immediate action.

North American Car Co.
327 S. La Salle St., Chicago, Ill.
S. W. District Office: Petroleum Bldg., Tulsa, Okla.

By the North American System It is Cheaper to Lease than to Buy

PENNSYLVANIA-PETROLEUM-PRODUCTS-PURE
TRADE MARK CORECO ESTABLISHED 1885

CORECO MOTOR OILS

Guaranteed 100% PURE PENNSYLVANIA OIL

Permit No. 33

Represent the best lubrication for ALL motor purposes.
Every drum of "CORECO" has the Pennsylvania Crude Oil Association Insignia.

Insist upon seeing this Insignia

Continental Refining Co., Oil City, Pa.

It Pays to Buy a Kellogg

Model EM 722 Air Compressor

DOWN!

Rapid standardization by large operators of filling stations on the Kellogg Two stage compressor enables us to quote Oil Companies a remarkably low price.

The Kellogg EM 722 was a genuine compressor value at the old price. Now that the price is lowered—well figure it out for yourself!

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Kellogg Manufacturing Company

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New Kellogg Air Tower Attracts motorists night and day. Air and water service combined. Price only $60.00 net.

Beyond Compare for Pumping Air

Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

10670.—**Mineral oils** (unspecified), Amsterdam, Netherlands, exclusive agency.

10976.—**Candles,** Mazagan, Morocco, purchase and agency.

11019.—**Bitumen for roads,** Cork, Ireland, purchase.

11020.—**Gasoline,** Pontevedra, Spain, purchase and agency.

11145.—**Oils and paraffin wax,** Bahia, Brazil, purchase and agency.

11190.—**Gasoline and lubricating oils,** Sagua la Grande, Cuba, agency.

11196.—**Lubricating oils,** Halmstad, Sweden, agency.

11220.—**Steam cylinder oil,** Warsaw, Poland, purchase and agency.

11259.—**Lubricating oils,** 1650 tons, Alexandria, Egypt, purchase.

11303.—**Petrolatum,** Sydney, Australia, agency.

11314.—**Paraffin wax,** Cologne, Germany, purchase.

11315.—**Gasoline and lubricating oils,** Kovno, Lithuania, purchase.

11316.—**White refined paraffin,** Hamburg, Germany, purchase and agency.

11317.—**Gasoline,** Malaga, Spain, purchase and agency.

11318.—**Fuel oil,** Montreal, Canada, purchase.

11319.—**Paving asphalt,** Cork, Ireland, purchase.

11320.—**Paraffin wax,** 200 to 300 tons monthly, Antwerp, Belgium, purchase.

11351.—**Lubricating oils,** Lisbon, Portugal, agency.

New Books

The Petroleum Register

The July 1924 edition of The Petroleum Register is now ready for distribution. The classifications remain practically the same as in previous editions. Some of them are:

Refiners.
Compounders of lubricating oils and greases.
Grease and cutting compound manufacturers.
Marketers and jobbers.
Producers of crude petroleum.
Pipe lines.

The Tide Water Refinery of Bayonne, N. J.

Tide Water offers to Jobbers, Wholesalers and Marketers

One hundred and fifty petroleum products of unsurpassed quality, refined to exact specifications—*plus* specialized service.

The Story of Tide Water Oil
Number five of a series.

A Glimpse into the Grease Plant

LUBRICATING grease is not *solidified oil* as it is sometimes mistakenly termed. It is a physical mixture of mineral oil and a minimum of soap, or carrier, produced from an acidless animal oil.

Let us follow a batch of grease through the Tide Water Refinery at Bayonne, New Jersey. The carrier is first manufactured by the saponification of a chemically pure animal fat in a steam or fire-heated kettle. The best grade of mineral oil is then gradually stirred in and the mixture is cooked for varying periods of time and at different temperatures according to the type of grease desired.

During the entire process of manufacture the ingredients are constantly under the strict supervision of expert grease makers. And since the raw materials are of the highest quality, the greases made in this manner are noted for their purity and high lubricating qualities.

Three Points of Interest to Every Buyer of Petroleum Products.

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For nearly half a century Tide Water has held steadfast to the fundamental policy of complete, thorough refining to exact specifications. This is one of the reasons for the world wide demand for our pure Pennsylvania Cylinder Stocks, recognized throughout the entire industry for their true worth.

Refining
Intensive experimental and research work is always under way to improve our refining methods. As a result we are constantly raising our standards of quality even when our existing standards are, in many cases, far in advance of the rest of the industry. All refining operations are controlled by a single, highly trained technical organization.

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Tide Water's specialized service to jobbers, wholesalers and marketers of petroleum products goes hand in hand with the absolute uniformity and unsurpassed quality of Tide Water Products. Specialized service means a keen interest in your marketing problems and helpful cooperation by our Sales and Refinery organizations at all times.

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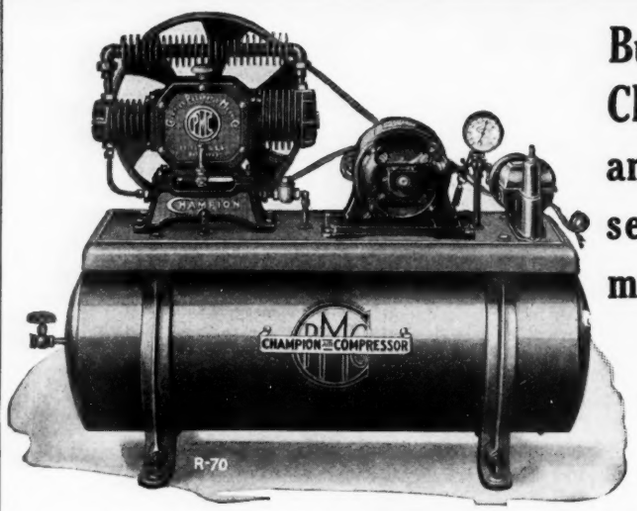

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THE Champion Two Stage complete automatic unit is ruggedly constructed and efficiently designed. Hence, it has become very popular because of the excellent service it gives, the manner in which it stands up under hard usage, and because its operating expense is low.

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Natural gasoline manufacturers.

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On the companies listed in it there is given such information as the location of main and branch offices, the date of organization, officers of the company, authorized capital, properties, products manufactured, trade names used, and the number of filling stations operated, besides much other information.

Officers and directors of all the national oil associations are given.

There is a Statistical Section, Traffic Guide to refineries, and many maps of oil producing territory in the United States.

The Petroleum Register is for sale for $10 by National Petroleum News, 801 Caxton Building, Cleveland, Ohio.

Downward Trend In Auto Output Halted

CLEVELAND, Aug. 23.—The downward trend in production of automobiles was halted in July, according to reports from 99 passenger car and 136 truck manufacturers to the Department of Commerce. Total production amounted to 262,876 as against 245,807 in June and 312,865 in May. Comparative production figures from the beginning of July follow:

	Passenger Cars		
	1922	1923	1924
January	81,696	223,822	287,353
February	109,171	254,782	*336,371
March	152,962	319,789	348,356
April	197,224	344,661	337,045
May	232,462	350,460	*279,453
June	263,053	337,442	*217,943
July	225,103	297,413	237,652
August	249,498	314,431	
September	187,711	298,964	
October	217,582	335,041	
November	215,362	284,939	
December	208,016	275,472	

	Trucks		
	1922	1923	1924
January	9,596	19,732	28,925
February	13,360	22,173	* 31,156
March	20,036	35,284	34,118
April	22,665	38,085	* 36,158
May	24,120	43,730	* 33,412
June	26,354	41,173	* 27,874
July	22,083	30,692	25,224
August	24,711	30,872	
September	19,495	28,578	
October	21,824	30,139	
November	21,967	28,073	
December	20,394	27,762	

*Revised.

Schlinder Buys Tanker

PHILADELPHIA, Aug. 20.—The tanker Masconomo has recently been purchased from the Standard Transportation Co. of New York by the Julius Schlinder interests. The tanker has a cargo capacity of about 6500 tons and is the third tanker running in the interests of Oilworks Julius Schindler, the other two boats are the tankers Julius Schindler, Diesel motor ship, built in Hamburg in 1922, and Gustav Schindler, oil burner. The Masconomo is now just loading her first cargo in this country, to be carried to the refinery Neuhof near Hamburg, owned by Oilworks Julius Schindler.

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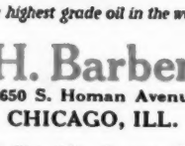

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Minneapolis, Minn.

Oil Patents Issued In July

Refining

Use of Vacuum

No. 1,500,040, July 1, 1924, John Joseph Allinson of Bartlesville, Okla. Process of distilling oil. Filed July 17, 1919, Class 196; Sub-class 25. Three claims.

To remove the lighter constituents of crude oil with accurately controlled conditions, the process comprises imparting a preliminary heat to crude oil of a temperature below 300° F., passing the heated oil into a chamber and finely dividing said oil a plurality of times within said chamber, vaporizing the lighter portions of the oil enclosed in the chamber solely by the sensible heat of the oil and the maintenance of a partial vacuum in the chamber, removing the vapors by suction as they are formed in the chamber, removing residual oil from the chamber and subjecting it to fractional distillation and imparting preliminary heat to the incoming crude oil by a heat interchange with hot residual oil from the fractional distillation.

Double Heating Jacket

No. 1,499,378, July 1, 1924. Frederick Lamplough of Feltham, England and Neville Charles Thomason Harper of Durban, Natal, South Africa. Retort or still, Filed Dec. 13, 1922. Class 196, sub-class 19. Nine claims.

To uniformly heat a decomposing still it is surrounded by two concentric jackets, to the outer one of which hot gases from the furnace are admitted and to the inner one fluid such as the gases from the first acket are admitted whereby hot spots are avoided.

Hot Oil Spraying Device

No. 1,501,371, July 15, 1924, Engene A. Reilly and Robert M. McLain, of Fort Worth, Tex. Apparatus for cracking and refining oil. Filed Oct. 19, 1921. Class 196, sub-class 3. Five claims.

To more efficiently decompose a hydrocarbon oil the apparatus comprises a still, a conduit for liquid outside the still, means for supplying oil under pressure to said conduit, means for heating said conduit, a conduit in the still connecting with the outside conduit, for heating a body of oil in the still, and a spraying device connecting with the inner conduit in the upper part of the still, whereby oil may be forced under pressure, heated and serve for heating a body of oil in the still and then sprayed in contact with such body of oil.

Another McAfee Patent

No. 1,501,104, July 8, 1924. Almer McD. McAfee of Pore Arthur, Tex., assignor to Gulf Refining Co. Distillation with aluminum chloride. Filed March 29, 1922. Class 196, sub-class 25. Seven claims.

To improve the character of the high boiling oils condensed and also the quality of the lighter gravity products in the decomposition of mineral oils by catalytic methods, the oil vapors are passed in counter current contact with vapors of aluminum chloride in a heated zone with the temperatures progressively increasing in the direction of the flow of oil. The vapors of oil and aluminum chloride are supplied to the zone at a midpoint, the amount of oil supplied being greater than will be catalyzed to lower boiling oils by the chloride.

Production

Screen for Wells

No. 1,500,828, July 8, 1924. Mahlon E. Layne, of Houston, Tex. Well screen and method of making same. Filed April 19, 1923. Class 166, sub-class 5. 15 claims.

To provide a well screen which can be driven into the well bore without having the perforations clogged up or having perforations with projecting edges inside or out, an inner and outer pipe closely fitting against one another is provided, the inner pipe having a series of spaced perforations. Slits in the outer pipe closing over the inner pipe perforations, are expanded outwardly to widen the slits and form openings communicating with the inner pipe perforations after the screen is in place.

De-Emulsifying Liquids

No. 1,501,877, July 15, 1924. Charles V. Zoul, of Santa Monica, Cal Process for de-emulsifying liquids. Filed Dec. 11, 1922. Class 196, sub-class 41. 16 claims.

To separate water from oil emulsions, a substantially anhydrous hydrocarbon oil is mixed with a diatomaceous earth and passed through a filter so as to form coating of oil wetted diatomaceous earth on the filtering surface. The emulsion to be treated is then passed through such coating to de-emulsify the emulsion and then the constituents of the filtrate are separated out.

Dehydrating Method

Re No. 15,871, July 15, 1924. Ernest I. Dyer of Beverley Hills and Arthur R. Heise of Redondo, Cal. Method for separating mixtures of liquids. Filed Oct. 9, 1917, Reissue appl'n filed Sept. 13, 1923. Class 196, sub-class 25. 11 claims.

In order to separate water from emulsified mineral oils in which water is the dispersed phase, the emulsion is heated and forced through a capillary medium comprising a layer of infusorial earth on a supporting screen or perforated plate, then oil and water may be separated by stratification.

Well Pumping Device

No. 1,502,690, July 29, 1924. Frederick H. Sibley, of Reno, Nev., assignor to Maximum Power Co. of Wilmington, Del. Oil well pumper. Filed Aug. 5, 1922. Class 74, sub-class 14. Six claims.

To utilize one motor as a straight line pumper and for pulling a well, the device comprises a gear driven shaft, a crank on said shaft carrying a crank pin, a pair of bell cranks, a gudgeon pin about whose center said bell cranks oscillate, there being a slot in the arm of one of the bell cranks in which

the crank pin slides, a pump beam, a pin in one end thereof which slides in a slot in the lower end of the bell cranks, a pin in the beam which passes through a slot formed in the end of the upper arm of the bell cranks, a pair of main brackets having arcuate clots therein in which said last named pin slides, a plurality of coil springs in arrangement with the bell cranks whereby their oscillation serves to expand and contract said springs, a winding drum, a shaft to which said drum is secured, bearings for said shaft and means to rotate said drum, said means being driven by the gear driven shaft and means to retard or prevent the rotation of said winding drum.

Big-Sheave Crown Block

No. 1,502,161, Crown block for well drilling apparatus. July 22, 1924. Charles C. Sharpemberg, of Bakersfield, and Leroy G. Gates of Whittier, Cal., assignors to Standard Oil Co. of California. Filed Nov. 2, 1923. Class 254, sub-class 190. Four claims.

To minimize the stresses in the ropes of a well drilling apparatus caused by the use of small sheaves, a crown block is provided having large sheaves and so arranged as to reduce wear on the rope and flanges by having the "flat angle" of the rope a minimum to avoid side pressure on the flanges of the rope groove.

Cementing Apparatus

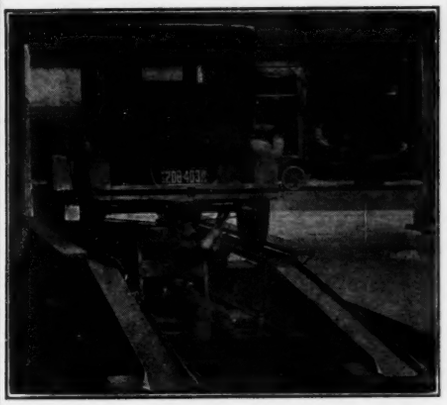
No. 1,502,179, July 22, 1924. Erd V. Crowell of Tulsa. Apparatus for and method of cementing oil-well casings. Filed June 15, 1920. Class 166, sub-class 1. Four claims.

So seal a well against water seepage, the lower end of a well casing is provided with a cementing shoe containing check valves on its periphery. A cementing mixture such as mud fluid, for example, is injected through an inner tubing perforated at its lower end, and forced into the well casing and thence through the valves in the casing to the surrounding space. A packing is provided between the tubing and casing just above the perforations and valves. The inner tubing may be subsequently removed and the cement inside the casing also removed while that outside stays in place.

Pressure Extraction Of Oil

—No. 1,499,509, July 1, 1924. Irwin L. Dunn of Marietta, O. Method of and apparatus for removal of fluids from wells. Filed Oct. 19, 1922, Class 166, sub-class 3. Nine claims.

For the removal of oil from a well, the process comprises introducing into such a well a pressure medium; in dividing the medium into a major and minor portion or volume; in applying such major volume upon the oil in the well to produce a displacement action by which a portion of the oil is elevated in a discharging column and in introducing such minor volume into such discharging column, whereby the major portion of the pressure medium displaces the oil and the minor volume accelerates the movement of the discharging column; and next in exhausting



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Seamless Steel Tank insuring absolute safety.
Solderless Compression Couplings.
Brunner Patented No. 73 Safety Valve—Absolutely Air Tight.

the major portion of the pressure medium after an oil discharging operation.

Shale

For Distilling Shale

No. 1,503,234, July 29, 1924. Daniel H. Francis, of Grand Junction, Colo. Shale retort. Filed May 2, 1921. Class 202, sub-class 14. Two claims.

An improved shale still comprises an enclosed heated shale receiving bed, means for depositing shale centrally of said bed, a large horizontally disposed wheel above said receiving bed and having spokes of a configuration to cause shale to be distributed from the central portion of said bed to the marginal portion thereof, and means adapted to successively scrape the spokes of said wheel.

Special Shale Apparatus

No. 1,503,093, July 29, 1924. Robert M. Catlin, of Franklin, N. J., assignor to Catlin Shale Products Co., of Wilmington, Del. Shale distillation apparatus. Filed Aug. 4, 1920. Class 202, sub-class 14. Six claims.

To more efficiently distill shale this apparatus comprises a receptacle for the shale charge, said receptacle having a perforated inner lining spaced from the outer wall of the receptacle to form an annular space for the escape of gas, and having a shale-charging opening and discharging opening for solid products, of means for closing said openings, means for conducting away gas from the annular space, means for heating said gas, a perforted pipe arranged to discharge said heated gas along the interior of the shale charge so that the gas may travel radially through the charge to the perforated lining, and means for drawing off the liquid products of distillation.

Shale Still

No. 1,501,881, July 15, 1924. Philander L. Bennett of Chicago. Shale retort. Filed April 12, 1922. Class 196, sub-class 19. Two claims.

To more completely distill shale and lessen formation of asphaltum and other deposit, the still comprises an elongated housing, a plurality of heating coils disposed therein, a distillation plate extending longitudinally within said housing and spaced slightly above said heating coils, a conveyor consisting of a chain-like netting movable longitudinally upon said plate in the interstices of which the shale is deposited, shovel blades mounted in said conveyor transverse to the plane of movement of the latter, said blades and netting co-acting to move the shale upon said distillation plate, a plurality of scrapers arranged transversely of the length of said plate and positioned in a horizontal plane slightly above the upper edges of said shovels, and vapor outlets leading from said housing whereby the products of distillation are withdrawn. When these stills are arranged in series an accurate regulation of temperature is possible and a greater range of products is alleged to be obtainable.

Miscellaneous

Filtering Oil From Ammonia

No. 1,500,279. July 8, 1924. Thomas Shipley of York, Pa. Method of and means for separating oil from the refrigerant in refrigerating systems. Filed Oct. 2, 1923. Class 62, sub-class 178. 16 claims.

To remove oil from a refrigerant such as ammonia, for example, the refrigerant while liquid is filtered to remove the oil and the tendency of the refrigerant to vaporize as it leaves the filter is overcome by reducing its temperature.

Build Long Welded Line In Record Time

HOUSTON, Aug. 25.—Magnolia Petroleum Co. has completed a new 8-inch oil line from Luling to Hull, Texas, a distance of 180 miles. This sets a new record as it is the longest pipe line in this country having all joints welded by the oxy-acetylene flame.

Work was begun early in April at Luling, the western end of the line, and in spite of the heavy rains was soon progressing rapidly. All work was stopped for days at a time by a succession of downpours and made heavy going for the construction gangs for some time afterward. This slowed the work somewhat, and increased the danger at the two important river crossings which were made at the Brazos and the Colorado. Each of these normally is about 500 feet wide, and the crossing was made at an unusually high stage of water for the season. However, no great trouble was experienced.

Pump stations were put in at intervals of 30 to 45 miles along the line. These stations contain a maximum amount of welding, all of the manifold and cross-over work being made up with welded joints. These stations were completed in a remarkably short time.

Tests were made on all sections of line as they were completed. Air and water were used at pressures up to 740 pounds per square inch. The test of the first leg of the completed line, from Luling to Sealy, a distance of 93 miles, at maximum pressure showed only one bad joint and three pin hole leaks.

In spite of short periods of adverse weather conditions the line was completed early in August—less than 100 working days.

Indiana Jobbing Company Expanding

FORT WAYNE, Aug. 29.—The Lincoln Oil Co. is making extensive improvements at its plant here. An office building has been erected and well equipped. The warehouse has been moved and raised four feet. New floor and loading platforms have been installed. The entire plant is being repainted. A new garage is contemplated. Willard M. Crowell, formerly with the Indiana Refining Co., has joined the company's sales force.

On The Lazy Bench

He Knew the Stone Wanted

"My! Jacob," said Steinberg, "that is a beautiful diamond you have in your pin. How much did it cost?"

"One thousand dollars."

"One thousand dollars!"

"Good gracious!" exclaimed Steinberg. "Why, I didn't know you were worth that much."

"Well, you see," exclaimed Jacob, "my Uncle Isaac died and left $1,000 for a stone to his memory. I was executor, and this is the stone."

—Pure Oil News

x x x

It's Crude

A stranger asked a street cleaner to direct him to the nearest haberdashery. The street cleaner not knowing what the word "haberdashery" meant said:

"There ain't none in this town."

"My," remarked the stranger, "this is a one horse town."

"You wouldn't think so," replied the street cleaner, "if you had my job."

—Marland Service Man

x x x

Dear Old Lady (producing donation)—my poor fellow. Are you married?

Street Musician—I am not, lady. You can take it from me that I shouldn't be relying on perfeck strangers for a living if I 'ad a wife!

—The Lookbox

x x x

And the Sticks Get Burned

"Your school is not a seminary; it's a match factory," said the smart young college man to the girl student.

"You're right," said the girl. "We furnish the heads and get the sticks from the men's colleges."

—Marland Service Man.

x x x

Not Much Difference

"These men were blocking traffic, Your Honor, while they had an argument."

"Were they in an altercation?"

"No, Your Honor, they were in a Ford."

—Magnolia Oil News

x x x

At the Source of Supply

"How did Robinsky make his money so quickly?"

"Why, he established branch junkshops close to all the important grade-crossings of the country."

—Marland Service Man

x x x

After a loud and prolonged exhortation the preacher called for testimonials. A devout young lady of color

Type 362 *Rapidelivery* Speed Pump. Large 20 gallon etched dial. 5 gallon continuous forward pump. Adjustable measuring stops. Efficient meter and filter. Fast. Smooth. Long Life. Accurate.

Type 584 *America's Best Hand-Operated Visible.* 5 and 10 gallon bowls. Double cylinder positive acting. Patented interlocking valves. Brilliant night illumination. Majestic in appearance. Wonderfully fast.

Type 58-A-B-581 *Speediest Visibles made.* Motor and Air Operated. 5 and 10 gallon bowls. Brilliant night illumination displays gasoline crystal water-white. Patented interlocking valves.

BUY Service, Accuracy, Economy *with* MILWAUKEE

Service continuous—*Accuracy* always—*Economy* in operation—are only a few of the essentials procured in the purchase of MILWAUKEE Pumps.

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We also manufacture a complete line of Pumps, Galvanized Underground Tanks, "Lub" outfits, Air Compressors, which are in use in every civilized country in the world.

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Model O-5

1. High speed rotary pump insures speed in filling the bowl.
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6. Wired for lights and furnished with large display globe.
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8. Simple in construction.
9. Handsome in appearance.
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Model O-5 with 5 gallon bowl. - - - - - - - Net $175.00

Model P-10 with 10 gallon bowl. - - - - - - - Net $210.00

Substantial discounts on quantity purchases

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arose and shouted her story: "Las' nite Ah was in de ahms ob de debbil; an' tonite Ah is in the ahms ob de Lord."

A hushed but excited voice from the back of the room interrupted her: "Got a date fo' tomorrow nite, sister?"

—Marland Service Man

x x x

Knew What to Ask For

The new minister in a Georgia church was delivering his first sermon. The minister's sermon was eloquent, and his prayers seeming to cover the whole category of human wants. After the services one of the deacons asked the negro janitor what he thought of the new minister.

"Don't you think he offers up a good prayer, Joe?"

"Ah mos' suhtainly does, boss, why dat man axed de Lord fo' things dat de udder preacher didn't even know he had."

—Magnolia Oil News

x x x

Repairing, Neatly Done

Irate Customer—"I bought a car of you several weeks ago, and you said if anything went wrong you'd supply the broken parts."

Dealer—"Yes."

Irate Customer—"I'd like to get a nose, a shoulder-blade and a big toe."

—Marland Service Man.

x x x

They've All Gone to the Devil

"Say, pa!"

"Well, my son."

"I took a walk through the cemetery today and read the inscriptions on all the tombstones."

"Well, what about it?"

"Where are all the wicked people buried?"

—Magnolia Oil News

x x x

A Bad Habit

Magistrate—"And what was the prisoner doing?"

Constable—"'E were 'avin' a very 'eated argument with a cabdriver, your worship."

Magistrate—"But that doesn't prove he was drunk."

Constable—"Ah! But there weren't no cabdriver there, yer worship!"

—Pennico News

x x x

"Your medicine has helped me wonderfully. A month ago I could not spank my baby and now I am able to thrash my husband. Heaven bless you."
—Testimonial by a grateful woman in a patent medicine advertisement.

—Pure Oil News

x x x

Golfer (to caddie as stranger passes by): "New member, isn't he?"

Caddie: "Yessir. 'E swore 'isself in yesterday."

—Union Oil Bulletin

REFINERY-TANK WAGON MARKETS

All Major Products Stronger In Mid-Continent Market

Staff Special

TULSA, Aug. 30.

FOR the second consecutive week Mid-Continent refinery markets have strengthened as refiners have been forced to concentrate their efforts not on selling their goods but in filling the orders of their customers. Virtually every product manufactured in the field is in a stronger position with current prices materially higher than at the opening of the week. Gasolines are up ¼ cent, kerosene, distillates and gas oil ⅛ to ¼ and fuel oil 5 cents per barrel.

A summer of extraordinarily heavy gasoline business has reduced stocks of that commodity to a level which in the Mid-Continent is generally satisfactory. And while August has gone refiners are expecting to be flooded with motor fuel business for another 30 to 60 days. In recent years the level of September and October shipments have been only a little below those of August and good business has extended into December.

Figures of the U. S. Bureau of Mines show that gasoline stocks at Oklahoma and Kansas refineries were reduced 25,000,000 gallons in September a year ago. In October a further reduction of 21,000,000 gallons was recorded and in November stocks were cut 19,000,000 gallons. During December gasoline movement was greater than production for the first 15 days and total stocks were increased only 2,000,000 gallons during the month, despite the fact that production was increased 8,500,000 gallons as compared with the previous month.

If weather conditions are satisfactory for fall motoring, it is quite possible that fall withdrawals from gasoline storage may be even greater this year than last. If they are as good the Mid-Continent will reach the first of the year with not much, if any, more than 100,000,000 gallons in reserve.

Keep Gasoline Stocks Low

There has been some tendency to increase crude runs during the past few weeks of excellent business but as a whole refiners are determined not to carry much gasoline over into next year. The attitude of one of the principal operators is typical of the thought of most refiners. He said to the writer, "We propose to have our gasoline tanks dry on Jan. 1. Our entire effort will be devoted to that end. We will have no carry-over except crude."

It is the opinion of this refiner that crude prices will be reduced below their present level. He thinks that the average grade of Oklahoma oil will be posted at around $1 per barrel as it was when proration ended in 1923. With mounting production and crude demand about to decline in line with seasonal consumption this refiner is not in sympathy with the small wave of optimism which appeared this week, started probably by the action of The Texas Co. in taking 100 per cent of the oil from its connections in north and central Texas.

"Why carry gasoline over into next year which was made out of crude costing $1.50 per barrel and upwards when it may be possible to put new crude into storage at a lower price?" the refiner asked. "Our policy will be to sell all of our gasoline and fill our tanks with oil in hope that we may make a profit on our manufacturing operations in 1925."

During August the refiner mentioned has been shipping 150 per cent as much gasoline from his stocks as he has been manufacturing. In other words his shipments have been two and a half times his production. This has been in spite of the fact that his prices are ½ cent higher today than they were at the middle of the month.

Run on Current Basis

In the past refiners generally have felt it necessary on account of overhead charges and other factors to keep their plants running at a fairly regular rate throughout the year. In dull months they have built up large reserves to meet the needs of their customers at the time of peak consumption. While this plan is undoubtedly desirable from a theoretical standpoint, it has been apparent recently that there is a growing feeling among refiners that the uncertainties of market conditions make it more desirable to base their operations more nearly on the rate of current consumption. Instead of looking six to eight months in advance during the fall and winter months refiners are coming to the conclusion that it will be better to look only 60 to 90 days in advance when they plan their crude runs.

By looking several months into the future and building up huge reserves to meet expected demand the refiner tends to defeat his own ends. He creates a surplus which is a menace to his price structure. The refining capacity of the United States is sufficient to meet the peak demand of gasoline consumption on a current basis. Thus it is not imperative that refiners maintain 40 to 60 days' supply on hand.

Statistics Valuable

There is danger at this season that refiners may increase their runs more than is warranted by the business they are transacting. That danger is particularly grave now that the Western Petroleum Refiners Association has discontinued its weekly statistical service. The bulletins published through that agency during the past year have given refiners a week to week check on the situation in the field as a whole which has been invaluable in planning their operations.

Take for example one company which has several refineries in the Mid-Continent. Several times this year the company has been in the open market buying gasoline to fill the orders it has been receiving. Executives of the company have thought it wise to buy on the outside rather than increase their runs in view of the state of gasoline storage throughout the field.

The company mentioned has been in the market nearly every week during August for from 10 to 25 cars of gasoline and about the same amount of fuel oil. This business has served to strengthen the market and has helped to reduce inventories in the whole field.

Spot Prices Higher

At the opening of business last Monday U. S. Motor gasoline (Navy) was selling at 8 cents per gallon at nearly every plant in Group 3. By the middle of the week most of the refiners had advanced their price to 8¼ cents where it has remained. Indications are today that next week may see an additional ¼ cent tacked to the price.

Considerable gasoline has been sold in advance by refiners for delivery over the first 10 to 20 days of September. Several plants announced yesterday and today that they can sell no more material for future delivery, having saved out only enough to take care of the regular run of spot business.

A rumor was current today that the Carson Petroleum Co. is inquiring for gasoline for export. This rumor was denied by representatives of the company here but it has served to put refiners in a more optimistic frame of mind. During August the Sinclair Refining Co. bought around 1,400 cars of gasoline for both export and domestic shipment,

"Be Square Products"

BARNSDALL

Engaged in Every Branch of the Petroleum Industry

The BARNSDALL REFINING COMPANY is one of the subsidiaries of the BARNSDALL CORPORATION, which has assets of over Forty Million ($40,000,000) Dollars;

With twenty-seven thousand domestic gas customers in twenty-eight municipalities in the states of New York and Pennsylvania;

With a complete mining organization engaged in mining gold, silver, copper, lead, zinc and other metals and producing the only pure tripoli in the world out of which is manufactured useful household articles superior in quality to those now being supplied to the market because tripoli is Nature's product.

With approximately 300,000 acres of oil and gas leases extending from Pennsylvania to California—with only ninety thousand acres operated and developed, upon which there are twenty-six hundred oil wells producing more than seven thousand barrels of crude oil daily and six hundred twenty-five gas wells, and six hundred miles of pipe lines;

With a fully equipped, complete, modern refinery located at Barnsdall, Oklahoma, in the heart of the corporation's mid-continent production, with over one hundred miles of pipe line transporting the crude oil to the refinery, where it is manufactured into high grade, uniform quality products, including Lubricating Oils, Cylinder Stocks and Wax;

With twelve absorption gasoline plants to extract the natural gasoline from the casing head gas of the producing oil wells and a fleet of steel tank cars for shipping and transporting all of its refined oils to market;

With an export department constantly preparing shipments of Barnsdall Products for export to European countries and South America, through the ports of New Orleans and Mobile;

With a large warehouse and storage plant in Kansas City, Mo., with distributing stations well located in the agricultural country of Missouri and Kansas;

With the following subsidiaries owned and controlled by the Barnsdall Corporation;

American Tripoli Company
Ashland Oil Company
Atlanta Mines Company
Barnsdall Oil Co. of California
Barnsdall Oil Co. of Delaware
Barnsdall Oil Co. of Maine
Barnsdall Petroleum Storage Co.
Barnsdall Products Corp.
Barnsdall Refining Co. of Delaware
Barnsdall Refining Co. of Maine
Barnsdall Zinc Company
Dempseytown Gas Company
Jantha Producing Company
Lynn Natural Gas Company
Marnet Oil & Gas Company
Mercer Land Company
Mineral Hill Consolidated Copper Co.
Moncton Tramways, Electricity & Gas Company, Ltd.
Norwood Oil Company
Palmarito Mining Company
Pinos Altos Mines Company
Pittsburgh Oil & Gas Company
Potter Gas Company
Potter Oil Company of West Virginia
Southern Oil Company

Our Own Crude
Our Own Pipe Lines
Our Own Refinery
Our Own Tank Cars

"A Dependable Source Supply"

BARNSDALL REFINING COMPANY
910 South Michigan Ave., Chicago, U. S. A.

New York Pittsburgh Detroit St. Louis Kansas City St. Paul Los Angeles Tulsa

Foreign Offices:
Paris Antwerp Buenos Aires
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chiefly out of Texas and Louisiana-Arkansasa. With the export markets picking up in the east refiners are expecting more business from that quarter in September even though the rumor current today may be groundless.

Premium grade gasolines have been stronger during the past week. Refiners are making little or no 64 and 60 gasolines. Their stocks of these grades are low and with prices only ¾ cent and ¼ above U. S. Motor refiners are not inclined to manufacture much of the light gasoline. Another reason for the higher prices is the scarcity of natural gasoline for refinery blending.

Natural Gasoline Strong

Natural gasoline has been the most active commodity in the market during the week. Nearly all surplus gasoline in the field was bought up during August by the Chestnut & Smith Corp. which was understood to have been buying for the account of the Sinclair Refining Co. The buying drove prices up more than 1 cent per gallon and brought numerous other refiners into the field to cover their September requirements. Buying for delivery over the month has been brisk for several days and prices paid for futures have been even higher than today's spot market of 8¼ to 8¾ cents per gallon on all grades.

In a period when refiners are depleting their stocks of gasoline there is always an extraordinary demand for natural gasoline. The light material is needed by the refiner to bring his stored benzine up to proper specifications.

Kerosene is higher again. During August Sinclair bought 500 cars for domestic movement. Jobbers up and down the Mississippi Valley are doing an excellent business among the farmers who are up to their necks in fall plowing. The farmers are getting money in for their early crops now and are feeling more prosperous, paying up their debts and buying more goods.

Burning Oils Scarce

Attention of the refiners is centered on gasoline and there is a general inclination to hold burning oils for even higher prices. The fall distillate and kerosene business for home heating is about to dawn and feeling is general here that all home fuels will command fancy prices within the next few weeks. Jobbers who have been able to obtain marginal or flat contracts on distillate are congratulating themselves since a great part of the burning oils business for the winter will be on a spot basis. It was reported today that some 38-40 distillate has sold as high as 4 cents per gallon. Generally speaking prices are 3½ to 3¾ cents. Kerosene is 4½ to 5 cents per gallon with some refiners unable to make shipments for several weeks.

Gas oil is scarce despite the fact that many cracking plants are not being operated. Prices are up ⅛ to ¼ cent per gallon while some refiners will not sell at all for the present.

Fuel oil is likewise scarce. Buyers are having more and more difficulty in buying high gravity fuel. Refiners are carrying their still bottoms down further, squeezing every drop of gas oil and distillate out of the crude. The result is that 24-26 fuel oil is rapidly being replaced by 22-24 and 20-22 fuel.

An example of the tendency among refiners is seen in the present operations of one plant in Kansas. The refiner is now cracking his fuel oil and making a residuum fuel of 18 gravity which must be handled very hot and can be used only by customers who have special equipment for heating it until it will flow.

Spot fuel today is 90 to 95 cents per barrel for 24-26. The 20-22 fuel is selling at 85 to 90 cents. These prices represent an advance of 5 cents over the opening of the week.

Refiners', Compounders' Supplies

Following are the average market prices for the week on materials used by refiners and Compounders f. o. b. shipping point as effective this date.

Benzol

	Sept. 1	Aug. 25
Pure Water White, Tanks.....gal....	24-25	24-25
90%.....Tanks.....gal....	-28	-28

Above are industrial grades of benzol; motor grades run 2c under to 2c over gasoline tank wagon prices at point of delivery.

Refiners' Supplies

Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg.....Drums.....cwt.	-1.70	-1.70
Sal Soda wks.....cwt.	1.10-1.25	1.10-1.25
Caustic Soda 76% solid.cwt.	-3.10	-3.10
Chloride of Lime.....cwt.	.....	.....
Works.....	1.90-2.10	1.90-2.10
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	9.00-10.00	9.00-10.00

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads Spot...gal.	-1.04	-1.04
September.....	-1.02	1.02-1.04
October.....	- .94	- .96
November-April.....	- .91	- .91
Tanks, spot.....	- .96	- .98
Less carload Spot.....gal.	-1.05	-1.07
Less than 5 Bbls. Spot.....	-1.07	-1.09
Boiled, tank Spot.....gal.	- .98	-1.00
Boiled, carloads Spot....gal.	-1.04	-1.06
*Soya Bean Spot, Tanks..lb.	- .10¾	- .10½
Animal Oils—		
English Degras.....lb.	.04¾-.05½	.04¾-.05¼
Domestic Degras, bbls. carloads....lb.	.04¼-.05	.04¼-.05
*Horse.....lb.	-.09	-.09
Oleic Acid—		
Dist.....lb.	-.09½	-.09½
Saponified.....lb.	-.09½	-.09½
Lard Oils—		
Prime Winter Strained.. 1 to 1½ffa.40/45c.t.lb.	.16⅝	8.16⅝
Extra Winter Strained.. 2 to 4½ffa.40/45c.t.lb.	.14¾	.14¾
Extra..... 4 to 5 ffa.40/45c.t.lb.	.13¾	.13¾
Extra No. 1..... 7 to 10 ffa.40/50c.t.lb.	.12¼	.12¼
No. 1.....15 to 18 ffa.40/45c.t.lb.	.11¾	.11¾
No. 2.....22 to 25 ffa.40/45c.t.lb.	.11½	.11½
Prime Edible Tallow under 1⅞ ffa. 40/45c.t.N.Y.....lb.	-.10¾	-.10¼
Tallow acidless.....lb.	-.11½	-.11½
Lard Stearine.....lb.	-.17¼	-.16¾
Oleo Stearine.....lb.	-.17	-.16
Neatsfoot Oil—		
Pure.....bbls.-lb.	.15	.15
Extra.....do lb.	.12¼	.12¼
No. 1.....do lb.	.11¾	.11¾
Cold pressed.....lb.	.19½	.19½
Fish Oils—		
Menhaden Oil Light pressed.....gal.	-.65	-.65
White.....gal.	-.70	-.70
Yellow bleached.....gal.	-.68	-.68
*Herring tank cars coast.....gal.	-.40	-.40
Whale, extra winter bleached.....gal.	-.80	-.80
Seal.....gal.	Nominal	
Naval Stores—		
Turpentine, N.Y.....gal.	.90	.90
Turpentine†.....gal.	.83¼	.85
Rosin B. N. Y.....Bbl.	5.90	5.90
Rosin F. N. Y.....Bbl.	6.15	6.15
Rosin B†.....Bbl.	4.65	4 65
Rosin F†.....Bbl.	4.82½	4.87½
Rosin Oil 1st run.....gal.	.40	.40
Rosin Oil 2nd run.....gal.	.46	.46
Pine Tar—		
Kiln Burnt.....Bbl.	10.50	10.50
Retort.....Bbl.	10.50	10.50

†Savannah, Ga. market.
*Nominal

Chemicals Are Spotty; Benzol Still Firm

NEW YORK, Sept. 2.—Following is a review of the markets for supplies used in compounding and refining.

Linseed Oil

Prices eased off early in week following easier flaxseed. Demand less active. All positions down 2 cents for week. September available at $1.02 gallon, carlots, cooperage basis. Little interest in forward positions. Buyers look for lower prices soon and hold off. Sentiment reverse of last week.

Animal Oils

Fairly steady. Export demand lard oil less active. Neatsfoot oil moving more freely. Degras in good demand. Better inquiry for oleo and tallow oils. Stearine movement larger than anticipated.

Fish Oils

Crude menhaden 50 cents gallon, factory in tank cars. Demand better. Fish catch still small. Pressed menhaden oil more active. Hide tanners buying more freely. Bleached oils also moving larger way. Cod oil slightly more active. Whale marking time at unchanged prices.

Sulfuric Acid

Little animation. Business hand-to-mouth. Slightly more pressure to sell. Stocks in excess of demand.

Caustic Soda

Better export demand. Domestic buyers more keenly interested but reluctant to buy ahead. Prices about steady.

Soda Ash

Business more active than preceding week. Stocks fairly large and prices unchanged.

Benzol

Strong. Demand still better than expected. Prices buoyant regardless of rumors to contrary. Stocks moderate. Export inquiry better.

Naval Stores

Big foreign buyers inquiring for rosin and turpentine. Prices steady throughout week. Export movement better than previous week. Domestic demand also more spirited. Stocks moderate. Rosin oil steady but dull. Little interest in tar and pitch.

Berry's Sons Furnace Distillate

Have you made preparations to supply your customers with Furnace Distillate? Your purchases should be made now so that you can be assured of a steady, continuous supply.

Last Winter an astonishing demand developed for Furnace Distillate. Additional thousands of burners have been installed during the Summer.

Be forewarned! Phone or wire **Berry's Sons** for prices on Furnace Distillate for spot shipment or for contract over a period of months.

Always get **Berry's Sons'** prices before buying petroleum products.

Write or wire the office nearest to you.

JAMES B. BERRY'S SONS COMPANY

REFINERS and WHOLESALERS
PETROLEUM PRODUCTS

Oil City, Pa: Chicago - New York - Boston - Philadelphia - Tulsa - London, Eng.

Tank Wagon, Service Station Markets
Gasoline and Kerosene

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers. Usually this price does not apply to sales to consumers from tank wagons.

Prices in effect September 1

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N.J.	17.5	0	17.5	*	13
Newark, N. J.	17.5	0	17.5	*	13
Annapolis, Md.	17	2	19	*	12.5
Baltimore, Md.	17	2	19	22	11
Cumberland, Md.	17	2	19	22	12.5
Washington, D.C.	17	2	19	21	12.5
Danville, Va.	17.5	3	20.5	*	13.5
Norfolk, Va.	17.5	3	20.5	22.5	13.5
Richmond, Va.	17.5	3	20.5	23.5	13.5
Roanoke, Va.	17.5	3	20.5	22.5	13.5
Petersburg, Va.	17.5	3	20.5	*	13.5
Charleston, W.Va.	17	2	19	22	13.5
Clarksburg, W.Va.	17	2	19	21	13.5
Keyser, W.Va.	17	2	19	*	13.5
Parkersburg, W.Va.	17	2	19	21	13.5
Wheeling, W.Va.	17	2	19	22	13.5
Williamson, W.Va.	17	2	19	*	13.5
Charlotte, N.C.	17	3	20	23	13.5
Hickory, N.C.	17	3	20	*	13.5
High Point, N.C.	17	3	20	*	13.5
Mt. Airy, N.C.	17	3	20	*	13.5
Salisbury, N.C.	17	3	20	*	13.5
Charleston, S.C.	17.5	3	20.5	23.5	14
Columbia, S.C.	17.5	3	20.5	22.5	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK TERRITORY

*New York City	18	0	18	20.5	13
Albany, N. Y.	16	0	16	18	13
Buffalo, N. Y.	16	0	16	19	13
Rochester, N. Y.	15	0	15	19	13
Syracuse, N. Y.	14	0	14	16	12
Boston, Mass.	18	0	18	20.5	12
Augusta, Me.	18	1	19	21.5	13
Manchester, N.H.	18	2	20	22.5	13
Burlington, Vt.	18	1	19	21.5	13

*In steel barrels.

ATLANTIC REFINING TERRITORY

Pittsburgh, Pa.	18	0	18	23*	14
Philadelphia, Pa.	18	0	18	23*	14
Allentown, Pa.	18	0	18	23*	14
Scranton, Pa.	18	0	18	23*	14
Altoona, Pa.	18	0	18	23*	14
Dover, Del.	18	2	20	23	14
Wilmington, Del.	18	2	20	23	14
Providence, R. I.	18	0	18	21	13
Springfield, Mass.	18	0	18	22	13
Worcester, Mass.	18	0	18	22	13
Hartford, Conn.	18	1	19	22	13
New Haven, Conn.	18	1	19	22	13
Boston, Mass.	18	0	18	21	13

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. OHIO TERRITORY

All Ohio points	16	0	16	18	14

S. O. KENTUCKY TERRITORY

Lexington, Ky.	14	3	17	20	14
Louisville, Ky.	13	3	16	18	12
Covington, Ky.	13	3	16	19	14
Clarksdale, Miss.	15	3	18	21	12
Jackson, Miss.	15	3	18	21	10
Natchez, Miss.	14.5	3	17.5	20.5	11.5
Vicksburg, Miss.	14.5	3	17.5	20.5	11.5
Birmingham, Ala.	17	2	19	21	14.5
Mobile, Ala.	16	2	18	20	12.5
Montgomery, Ala*	18	2	20	22	15.5
Atlanta, Ga.	16	3	19	23	13
Augusta, Ga.	18	3	21	23	13.5
Macon, Ga.	18	3	21	23	14.5
Savannah, Ga.	15	3	18	20	13
Jacksonville, Fla.	16	3	19	21	13
Miami, Fla.	18	3	21	23	14.5
Tampa, Fla.	16	3	19	21	13
Pensacola, Fla.	16	3	19	21	13.5

*Local privilege Tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. CALIFORNIA TERRITORY

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	14	2	16	19	15.5
Fresno, Cal.	15.5	2	17.5	20.5	17.5
San Francisco, Cal.	15	2	17	20	15.5
Reno, Nev.	18.5	2	20.5	23.5	19
Portland, Ore.	16	3	19	22	16.5
Seattle, Wash.	16	2	18	21	16.5
Spokane, Wash.	20	2	22	25	20.5
Tacoma, Wash.	16	2	18	21	16.5

S. O. LOUISIANA TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Camden, Ark.	16	4	20	22	13
Little Rock, Ark.	16	4	20	22	13
West Helena, Ark.	16	4	20	22	13
Alexandria, La.	15.5	2	17.5	20.5	13
Baton Rouge, La.	14	2	16	19	11.5
Lake Charles, La.	15.5	2	17.5	20.5	13
New Orleans, La.	13.5	2	15.5	18.5	9
Shreveport, La.	15.5	2	17.5	20.5	13
Bristol, Tenn.	18	2	20	22	13.5
Chattanooga, Tenn.	15	2	17	19	14.5
Knoxville, Tenn.	17.5	2	19.5	21.5	15
Nashville, Tenn.	16.5	2	18.5	20.5	13.5
Memphis, Tenn.	14	2	16	18	14

MAGNOLIA PETROLEUM TERRITORY

Muskogee, Okla.	11.5	2½	14	19	11
Oklahoma City	11.5	2½	14	19	10
Tulsa, Okla.	10.5	2½	13	16	10
Fort Smith, Ark.	13	4	17	20	12
Little Rock, Ark.	16	4	20	23	13
Texarkana, Ark.	14	4	18	21	13
Dallas, Tex.	11	1	12	16	10
El Paso, Tex.	11	1	12	14	12
Fort Worth, Tex.	9	1	10	12	11
Houston, Tex.	12	1	13	17	12
San Antonio, Tex.	12	1	13	16	10

S. O. INDIANA TERRITORY

Chicago, Ill.	†14.25	0	†14.25	18	11
Decatur, Ill.	16.2	0	16.2	18.2	11.5
East St. Louis, Ill.	15.1	0	15.1	17.35	10.6
Joliet, Ill.	16.4	0	16.4	18.4	11.7
Peoria, Ill.	16.2	0	16.2	18.2	11.5
Quincy, Ill.	16.2	0	16.2	18.2	11.3
Evansville, Ind.	16	2	18	20	11.5
Indianapolis, Ind.	16.2	2	18.2	20.2	11.7
South Bend, Ind.	16.4	2	18.4	20.4	11.9
Detroit, Mich.	16.8	0	16.8	18.8	12.2
Grand Rapids, Mich.	16.7	0	16.7	18.7	12.1
Saginaw, Mich.	16.9	0	16.9	18.9	12.3
La Crosse, Wis.	12 9	0	12.9	14 9	12.4
Madison, Wis.	16.3	0	16.3	18.3	11.5
Milwaukee, Wis.	15	0	15	18.	12.2
Duluth, Minn.	17.2	0	17.2	19.2	12.6
Mankato, Minn.	16.8	0	16.8	18.8	12.4
Minneapolis, Minn.	12	0	12	16	13.6
Davenport, Ia.	15.5	0	15.5	17.5	12.9
Des Moines, Ia.	14.5	0	14.5	16.5	12.9
Sioux City, Ia.	14	0	14	18	12.5
Kansas City, Mo*	11.9	1	12.9	16.9	11.3
St. Joseph, Mo*	15.5	½	16	18	11.9
St. Louis, Mo.*	14.1	½	14.6	17.9	12
Fargo, N. D.	15.3	1	16.3	19.3	14.6
Grand Forks, N.D.	20.2	1	22.2	24.2	15.9
Minot, N. D.	18.9	1	19.9	21.9	14.6
Huron, S. D.	16	2	18	20	13.1
Pierre, S. D.	18	2	20	22	13.1
Wichita, Kan.	13	0	13	15	10.8
Bartlesville, Okla.	14	2½	16.5	19.5	9.9

*Taxes levied by cities.
†Dumps less than 100 gallons at 16c Tank wagon.

S. O. NEBRASKA TERRITORY

Crawford, Neb.	17	0	17	*	12.25
Omaha, Neb.	11	0	11	13	11.5
McCook	15	0	15	17	13
Norfolk	14.75	0	14.75	16.75	12
North Platte	16	0	16	18	12.75
Scotts Bluff	17.25	0	17.25	19.25	12.25

*Standard has no service station here.

CONTINENTAL OIL TERRITORY

Denver, Colo.	16	2	18	20	13.5
Glenwood Sp'gs. Colo.	20	2	22	*	17.5
Pueblo, Colo.	16	2	18	20	13.5
Basin, Wyo.	18	1	19	*	14
Casper, Wyo.	16	1	17	19	12
Cheyenne, Wyo.	17.5	1	18.5	20.5	13.5
Cody, Wyo.	19	1	20	*	15
Lander, Wyo.	18	1	19	*	14
Sheridan, Wyo.	20	1	21	23	16
Billings, Mont.	18.5	2	20.5	22.5	14.5
Butte, Mont.	20	2	22	24	15
Great Falls, Mont.	20	2	22	24	16
Helena, Mont.	20	2	22	24	16
Miles City, Mont.	19.5	2	21.5	23.5	15.5
Missoula, Mont.	20	2	22	24	16
Ogden, Utah	19.5	2½	22	24	17
Salt Lake City, Utah.	19.5	2½	22	24	17
Boise, Ida.	21.5	2	23.5	25.5	19
Idaho Falls, Ida.	21	2	23	25	18.5
Albuquerque, N.M.	19	1	20	22	15.5

*Continental has no service stations at these points.

Texas Gasoline Scarce; Prices Strong

WICHITA FALLS, Aug. 30.—More optimism has been displayed in north Texas refinery markets during the past week than at any time in recent months. Active buying of all products has reduced inventories and many refiners have no stocks to draw on. In fact some plants are sold up so they cannot sell any more goods for a week or more.

Gasolines have shown much strength. Navy is scarce and quotations have advanced to 8¼ cents per gallon at most plants although it is still possible to pick up a car now and then at 8 cents. Higher gravities have reflected the stronger tone and 60-62, 400 end point gasoline is difficult to buy at 9 to 9¼ cents per gallon. The export grade of 64-66 is held firmly at 9½ cents and upwards. For the most part refiners are not anxious to sell gasoline for future delivery particularly since the crude situation has improved as much as it has in this area.

There is no kerosene available in north Texas under 4½ cents per gallon. It is understood that some was sold at that price for delivery over a period earlier this week but at present refiners who have kerosene on hand are selling only what their customers require from day to day. Distillate business is picking up and price of 38-40 light straw advanced to 3½ cents this week. Gas oil is firmer as well with 2¾ cent goods eliminated from the market and most refiners demanding 3 cents.

Large inquiries for fuel oil from mining and smelting interests in Arizona and New Mexico have been a feature of the heavy oil business during the past week. Until a little over a year ago these interests were large users of fuel oil from north Texas and did much to support the market here. When the California situation became acute and prices were low there the mines and smelters turned to that state for cheaper fuel. It is generally thought that they will be excellent customers of Texas plants again this winter.

Spot fuel oil is firm at 85 to 90 cents per barrel and only a limited amount can be bought for immediate shipment. In many cases refiners report that they have more instructions on hand than they can fill. In other cases refiners are refusing to quote on present markets and are storing their present production.

Tank Wagon Notes

Kerosene Reduced

Continental Oil Co.—1 cent Albuquerque, N. M., Aug. 28.

Gasoline Reduced

Atlantic Refining Co.—Reduction of 1 cent Aug. 25 meeting Standard of New York reduction of that date.

Magnolia Petroleum Co.—Fort Worth s.s. 2 cents Aug. 26; Tulsa s.s. 2 cents Aug. 29.

Refinery Markets On Light Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

GASOLINE AND NAPTHA

PENNSYLVANIA	Prices Sept. 1	Prices Aug. 25	Prices Aug. 18
52-54 Naptha	11¼–11½	11 –11¼	11 –11¼
54-56 Naptha	11½–12	11¼–11½	11¼–11½
58-60 Gasoline	11½–12	11½–11¾	11½–11¾
60 Straight-run gasoline	12½–13	12¼–12¾	12¾–13
62 Straight-run gasoline	13½–14	13½–14	13¾–14
64 Straight-run gasoline	14 –14½	14 –14½	14 –14½
68 Straight-run gasoline	16½–17	–16½	–16½
68-70 Blend, 450 E. P.	10½–11	10½–11	–10½
60-62 Blend, 450 E. P.	10½–11	10½–11	–10½
62-64 Blend, 450 E. P.	10½–11	10½–11	–10½
66-68 Blend, 440 E. P.	10¾–11	10¾–11	–10¾
68-70 Blend, 440 E. P.	10¾–11¼	10¾–11¾	–10¾
68-70 Blend, 420 E. P.	11 –11¾	11 –11¾	–11
OKLAHOMA			
48-50 450 E. P. naptha	7¼– 7½	7⅛– 7⅜	7 – 7¼
50-52 450 E. P. naptha	7½– 7¾	7⅜– 7⅝	7 – 7¼
56-58 450 E. P. gasoline	7¾– 8	7⅝– 7⅞	7¼– 7½
58-60 450 end point	7⅞– 8⅛		
58-60 U.S.Motor437 E.P.131i.b.p.	8 – 8¼	– 8	7½– 7¾
60-62 400 E. P. gasoline	9 – 9¼	8¾– 9¼	8¾– 9
64-66 375 E. P. gasoline	9½–10	9½– 9¾	9¼– 9¾
68-70 350 E. P. gasoline	10½–10¾	10¼–10½	10 –10½
NORTH TEXAS			
48-52 450 E. P. naptha	7½– 7¾	7¼– 7½	7 – 7¼
56-58 450 E. P. gasoline	7¾– 8	7⅜– 7⅝	7¼– 7½
56-58 U. S. Motor gasoline	7¾– 8	7½– 7¾	7⅜– 7⅝
58-60 U. S. Motor gasoline	8 – 8¼	7¾– 8	7⅝– 8
60-62 400 E. P. gasoline	9 – 9¼	8¾– 9	8¾– 9
64-66 390 E. P. gasoline	9¼– 9½	9 – 9¼	9 – 9¼
64-66 375 E. P. gasoline	9½– 9¾	9¼– 9½	9¼– 9½
68-70 350 E. P. gasoline	10¼–10½	10 –10¼	10 –10¼
NORTH LOUISIANA			
58-60 450 E. P. gasoline	8 – 8¼	8 – 8¼	7¾– 8
58-60 437 Navy Gasoline	8¼– 8½	8¼– 8½	8 – 8¼
64-66 390-400 E. P. Gasoline	9½– 9¾	9½– 9¾	9¼– 9¾
ARKANSAS			
58-60 450 E. P. gasoline	8 – 8¼	8 – 8¼	8 – 8¼
58-60 Navy gasoline	8¼– 8½	8¼– 8½	8¼– 8½
64-66 375 E. P. gasoline	9½– 9¾	9¼– 9½	9½– 9¾

NATURAL GASOLINE

OKLAHOMA			
Grade A, 73-78 375 E.P.,90% Rec.	8½– 8¾	8 – 8¼	– 7¾
Grade B, 76-82 375 E.P.,85% Rec.	8¼– 8½	7¾– 8	– 7½
Grade C, 80-88 350 E.P.,78% Rec.	8¼– 8½	7¾– 8	7¼– 7½
Grade D, 88-92 350 E. P.	8¼– 8½	7¾– 8	7¼– 7½

(Motor Natural Gasoline—Blends)

OKLAHOMA	Prices Sept. 1	Prices Aug. 25	Prices Aug. 18
Grade 1, 58-62 437 E.P.,91% Rec.	8 – 8¼	7¾– 8	7½– 7¾
Grade 2, 58-62 450 E.P.,90% Rec.	8 – 8¼	7¾– 8	7½– 7¾
Grade 3, 64-66 440 E.P.,88% Rec.	8 – 8¼	7¾– 8	7½– 7¾
Grade 4, 66-70 435 E.P.,85% Rec.	8 – 8¼	7¾– 8	7½– 7¾
NORTH TEXAS			
Grade A, 72-78 90% Rec.*	8 – 8¼	– 8	– 7½
Grade B, 76-82 85% Rec.*	8 – 8¼	7¾– 8	7¼– 7½
Grade C, 80-88 78% Rec.	8¼– 8½	7¾– 8	– 7¼

*F. O. B. Breckinridge.

(Motor Natural Gasoline—Blends)

Grade 1, 58-62 437 E. P.	8 – 8¼	7½– 7¾	7½– 7½
Grade 2, 58-62 450 E. P.	8 – 8¼	7½– 7¾	7¼– 7½

BURNING OILS

PENNSYLVANIA			
45 Water White	6¾– 7	6¼– 6¾	6 – 6¼
46 Water White	7¼– 7½	6¾– 7	6½– 6¾
47 Water White	– 7¾	7¼– 7¾	– 7¼
300 Burning Oil	7 – 7¼	7 – 7¼	6¾– 7¼
OKLAHOMA			
40-42 Prime White Dist.	4¼– 4½	4 – 4¼	–
41-43 Water White	4½– 4¾	4⅜– 4⅝	4¼– 4½
42-44 Water White	4¾– 5	4⅝– 4⅞	4½– 4¾
NORTH TEXAS			
40-42 Prime White Distillate	4⅛– 4⅜	4 – 4¼	3⅞– 4⅛
41-43 Water White Kerosene	4½– 4¾	4¼– 4½	4⅛– 4⅜
42-44 Water White Kerosene	4¾– 5	4½– 4¾	4¼– 4½
38-40 Straw	–	3¾– 3⅞	3⅞– 3⅞
NORTH LOUISIANA			
41-43 Water White Kerosene	4½– 4¾	4¼– 4½	4¼– 4½
ARKANSAS			
41-43 Water White Kerosene	4¾– 5	4½– 4¾	4½– 4¾
42-44 Water White Kerosene	5 – 5¼	4¾– 5	4¾– 5

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

Heavy Products Advance Sharply; Gasoline Is Bullish

CHICAGO, Aug. 30.—Strength characterized the Chicago oil market in the whole line of refinery products this week, and the price schedule took an upward slant late in the week, especially that part covering the heavy ends. This was probably more apparent in Chicago than in the field because marketers had some covering to do on their contracts at the end of the month.

The gasoline price did not change materially but inquiries for cars in transit were more numerous due to the approach of Labor Day. U. S. Motor for quick delivery became scarce Thursday and Friday and an improved movement of 56-58 was observed. The price of U. S. Motor was ranged from 8 to 8¼ cents but the outside figure was written more often as the week grew older.

The behavior of the gasoline market was natural. Refiners have been drawing on their stocks and therefore are bullish but a lack of faith in the permanence of the swell in the market kept them from increasing their runs. Many of them are forecasting a crude price cut early in September because of the size of crude stocks.

Kerosene is strong because of stiff demand and small supply. The price moved up steadily to a point where 4½ cents was the lowest possible buying price of 41-43 in the field. Kerosene tank wagon markets have been such as to stimulate a demand for 42-44 and 42 has moved in good volume to the trade at 4¾ to 5 cents.

Distillate suitable for domestic fuel has come into a surprising spot demand. Jobbers have showed a disposition to stock up on domestic fuels, storing it in some of their unused gasoline tanks. They believe the gasoline price is sure to decline while many of them think 38-40 distillate is at bottom and fear they may be unable to meet their fall demand at a price that will enable them to compete with the major interests in the business.

The spot price on 38-40 is 3¾ cents strong. Gas oil is strong also. The ruling quotation is 3 cents but that figure can be shaded in a number of marketing offices. Nevertheless the discount is small, the 2¾-cents price that prevailed last week having been quite generally withdrawn. Apparently the strength of gas oil was acquired from other products rather than from demand.

The industrial revival which business men generally believe to be coming soon, has given fuel oil a boost in price to a point where 90 cents a barrel is being quoted generally on 24-26 refinery goods. On Wednesday and early Thursday 85 cents was the top, and probably more moved at 85 than at 90 during the last two days of the week. Quotations of even 95 cents were heard.

The increased movement of Smackover oil fuel southward by reason of freight rate adjustment, curtailed refinery operation railroad purchases, and inquiries from industrial plants, all have contributed to the strength of fuel. Refinery fuel of 22-24 gravity, becoming more popular daily, can be had at 80 to 85 cents in some places but it is strong. Sales of Smackover crude fuel were made at 80 cents but Major dealers quoted 85 cents which allows a profit more in line with sales for southern shipment.

Refinery Markets On Lubricants, Heavy Oils

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

NEUTRAL OILS

PENNSYLVANIA	Prices Sept. 1	Prices Aug. 25	Prices Aug. 18
(Viscous Test 70)			
220 Vis. No. 3 Assoc. Filt	23 –24	23 –24	–23
200 Vis. No. 3 Assoc. Filt	20½–21½	20½–21½	21½–22
180 Vis. No. 4 Assoc. Filt	18½–19½	18½–19½	18 –18½
150 Vis. No. 3 Assoc. Filt	16½–17½	16½–17½	16 –16½
(Non-Viscous)			
34 350-360 Flash	6¾– 7¼	6¾– 7¼	6½– 6¾
36 Miners Neutrals 300-305 Flash	6¼– 6¾	6½– 6¾	6½– 6¾
OKLAHOMA			
(Viscous Test 100)			
70 Vis. at 100°F. No. 2¼–3 color	4¼– 4¾	4¼– 4¾	4¼– 4¾
100 Vis. at 100°F. No. 2 color	5 – 5½	5 – 5½	5 – 5½
100 Vis. at 100°F. No. 2½–3 color	4½– 5	4½– 5	4½– 5
150 Vis. at 100°F. No. 3 color	8¼– 9	8½– 9	8½– 9
150 Vis. at 100°F. No. 4 color	8 – 8½	8 – 8½	8 – 8½
180 Vis. at 100°F. No. 3 color	9½– 10	9½–10	9½–10
180 Vis. at 100°F. No. 4 color	9 – 9½	9 – 9½	9 – 9½
180 Vis. at 100°F. No. 5 color	8½– 9	8½– 9	8½– 9
180 Vis. at 100°F. No. 6 color	8 – 8½	8 – 8½	8 – 8½
200 Vis. at 100°F. No. 3 color	11½–12	11½–12	11½–12
200 Vis. at 100°F. No. 4 color	11 –11½	11 –11½	11 –11½
200 Vis. at 100°F. No. 5 color	10½–11	10½–11	10½–11
200 Vis. at 100°F. No. 6 color	10 –10½	10 –10½	10 –10½
220 Vis. at 100°F. No. 3 color	12½–13	12½–13	12½–13
220 Vis. at 100°F. No. 4 color	11¾–12¼	11¾–12¼	11¾–12¼
220 Vis. at 100°F. No. 5 color	11 –11½	11 –11½	11 –11½
220 Vis. at 100°F. No. 6 color	10¾–11¼	10¾–11¼	10¾–11¼
240 Vis. at 100°F. No. 3 color	14½–15	14½–15	14½–15
240 Vis. at 100°F. No. 4 color	14 –14½	14 –14½	14 –14½
240 Vis. at 100°F. No. 5 color	13 –13½	13 –13½	13 –13½
240 Vis. at 100°F. No. 6 color	12¾–13¼	12¾–13¼	12¾–13¼
280 Vis. at 100°F. No. 3 color	16½–17	16½–17	16½–17
280 Vis. at 100°F. No. 4 color	15½–16	15½–16	15½–16
280 Vis. at 100°F. No. 5 color	14½–15	14½–15	14½–15
280 Vis. at 100°F. No. 6 color	13½–14	13½–14	13½–14
300 Vis. at 100°F. No. 6 color	17½–18	17½–18	17½–18
SOUTH TEXAS			
(Viscous Test 100; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 – 9	8 – 9	8 – 9
150 Vis. No. 2½ Color Unfilt. Pale	10 –11	10 –11	10 –11
200 Vis. No. 3 Color Unfilt. Pale	12½–13½	12½–13½	12½–13½
300 Vis. No. 3 Color Unfilt. Pale	14½–15½	14½–15½	14½–15½
500 Vis. No. 3½ Color Unfilt. Pale	16½–17½	16½–17½	16½–17½
750 Vis. No. 4 Color Unfilt. Pale	22 –23	22 –23	22 –23
200 Vis. No. 2 Filt. Pale	22½–23½	22½–23½	22½–23½
300 Vis. No. 2 Color Filt. Pale	25½–26½	25½–26½	25½–26½
500 Vis. No. 2½ Color Filt. Pale	29½–30	29½–30	29½–30
750 Vis. No. 2½ Color Filt. Pale	39½–40	39½–40	39½–40
200 Vis. No. 5½ Color Red Oil	10½–11½	10½–11½	10½–11½
300 Vis. No. 5½ Color Red Oil	12½–13½	12½–13½	12½–13½
500 Vis. No. 6 Color Red Oil	14½–15½	14½–15½	14½–15½
750 Vis. No. 6 Color Red Oil	19½–20½	19½–20½	19½–20½

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210 Bright Stock	29 –34	29 –34	29 –34
150-160 Vis. at 210 Bright Stock	26 –30	26 –30	26 –30
Medium Filtered Stock	16½–18	16½–18	16½–18
600 Steam Refined Olive Green	7 – 7½	7 – 7½	7 – 7½
600 Steam Refined Dark Green	5½– 6½	5½– 6½	5½– 6½
Black Oil	3¾– 4	3¾– 4	3¾– 4

PENNSYLVANIA	Prices Sept. 1	Prices Aug. 25	Prices Aug. 18
600 Steam Refined	16½–17	–16½	16½–17
635 Steam Refined	19½–20½	19½–20½	20 –21
650 Steam Refined	22 –23	22 –23	22 –23
600 Flash	27 –28	27 –27½	–26
600 Warren E	21½–22	–22	–22½
600 Oil City E	21 –21½	19¾–20	–20½
600 Filtered D	26½–27	26½–27	–26½
Cold Test Stocks (bright filtered)	34 –36	33 –35	33½–34½
Cold Test Stock (dark filtered)	32 –34	31 –33	30 –31
Black Oil	– 7¾	7 – 7¼	– 6½

WAX

PENNSYLVANIA			
(Per Pound New York)			
122-124 White Crude Scale	5⅝– 5¾	– 5½	5 – 5¼
124-126 White Crude Scale	– 5¾	5½– 5⅝	5⅛– 5¼
OKLAHOMA			
(Per Pound Group 3)			
124-126 White Crude Scale	5¼– 5½	5 – 5¼	4½– 4¾

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	5 – 5¼	5 – 5¼	5¼– 5⅜
30-34 Fuel Oil	4½– 4¾	4⅝– 4¾	4¾– 4⅞
OKLAHOMA			
40-42 Prime White Dist	–	–	–
38-40 Straw Distillate	3½– 3¾	3⅜– 3⅝	3¼– 3⅜
36-38 Straw Distillate	3¼– 3½	3¼– 3½	3⅛– 3¼
32-36 Gas Oil (Gal.)	2⅞– 3⅛	2¾– 2⅞	2¾– 2⅞
24-26 Fuel Oil (bbl.)	.90– .95	.85– .90	.80–82½
Fuel Oil, buyers, cars (bbl.)	.90– .95	.85– .90	.77½–.80
20-22 Fuel Buyers	.85 – .90	82½– .85	.77½–.80
40-50 Asphalt Content Road Oil	.95–1.00	.90– .95	.90– .95
50-60 Asphalt Content Road Oil	1.00–1.05	.95–1.00	.95–1.00
60-70 Asphalt Content Road Oil	1.05–1.15	1.00–1.10	1.00–1.10
NORTH TEXAS			
38-40 Straw Distillate	3½– 3¾	3¼– 3⅜	3⅛– 3⅜
32-36 Gas Oil (gal.)	2¾– 3	2¾– 2⅞	2¾– 2⅞
24-26 Fuel, per bbl	.85– .90	.80–.82½	.75– .80
South Texas Fuel	1.50–1.60	1.50–1.60	1.50–1.60
South Texas Gas Oil	3¾– 4	3¾– 4	3¾– 4
NORTH LOUISIANA			
32-36 Gas Oil (Gal.)	3 – 3¼	3 – 3¼	3 – 3¼
22-26 Fuel Oil (bbl.)	.90– .95	.90– .95	.90– .95
ARKANSAS			
40-42 P. W. Dist			
38-40 Distillate	3⅜– 3⅝	3¼– 3½	3¼– 3½
32-36 Gas Oil	3⅛– 3⅜	3⅛– 3⅜	3 – 3¼
22-26 Refinery Fuel Oil	90 – .95	87½–.92½	.85– .90
Smackover Crude Fuel	.80 – .85	– .80	– .75
East Field Crude Fuel	.80 – .85	– .80	– .75

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

Conditions Are Greatly Improved In Western Pennsylvania

CLEVELAND, Sept. 2.—The last week in August was one of greatly improved conditions in the northwestern Pennsylvania refinery district. All products moved well with the exception of neutrals and these have been slowly but steadily improving.

A perplexing incident in the market was the offering of 25-cent premiums for Bradford grade crude oil by the Emery and Tide Water pipe lines on Aug. 27, only six days after the price of that crude had been reduced 15 cents by the Joseph Seep Purchasing Agency. While producers are wont to hold their crude when they think the bottom of prices has been reached, demand has not been heavy and it has seemed that refiners could easily get about all the crude they wished to run.

There are rumors of 15 and 20-cent premiums being paid for crude in the Oil City district but no refiner would admit that he was taking advantage of present crude prices to stock up.

Gasoline demand has been heavy and refiners' stocks are low. Light gravity grades are actually hard to find. Prices are slightly higher than a week ago. Naptha also is stronger and refiners making 54 are asking the same price for it as for 58.

Kerosene is brisk and ¼ cent higher today. Stocks at several refineries are cleaned out. It takes considerable shopping around to find stuff for spot shipment. Fuel oil also has improved but prices have not responded to demand as much as kerosene. Inquiries for distillate for home heating have been in the field but the uncertain condition that has developed has made refiners reluctant to gamble on the trend over the next six months.

Higher priced stocks and the increase in demand for neutrals reflects the elimination of long residuum motor oils from the spot market.

Steam refined and filtered stocks are steady to firm. Demand has been good and as many plants are operating at less than capacity the supply is relatively small. Increase of activity by factories and mills has increased demand for lubricants.

Wax is perhaps the strongest item in Pennsylvania. All refiners report being sold up from a week or two until into next year.

Export Inquiries For Kerosene Increasing; Wax Booming

By Special Correspondent

NEW YORK, Sept. 1

THERE were numerous export inquiries for cargoes of gasoline and kerosene for September-October shipment out of this port, although no actual sales were located. However, it was persistently rumored that one of the leading refiners had booked two cargoes of gasoline and one of kerosene, for late September or early October shipment to Great Britain.

French buyers have been manifesting a keen academic interest in gasoline but are reluctant to stock up just now. Underlying conditions are better than they were two weeks ago. Italian buyers are showing a keener interest and several good sized inquiries were received from this source.

Cased gasoline was rather sluggish, and few sizable dealings were recorded during the period under review. Far Eastern buyers have been inquiring in a more active way but are reluctant to purchase beyond immediate requirements.

Refiners are more confident of the future regardless of the fact that the touring season is drawing slowly but surely to a close. Early in the week U. S. Motor gasoline was offered freely at 10½ cents a gallon, tank cars refinery, but as the week ended, the majority were asking 10¾ cents a gallon, which figures 11¾ cents delivered, with one or two factors willing to do business at 11½ cents delivered.

Kerosene Grows Stronger

Kerosene has strengthened a little and the outlook is better. Cased kerosene is moving more freely, and several orders for from 5,000 to 10,000 cases were heard of. South American and African buyers have been showing a keen academic interest and are credited with a good deal of the fresh buying. Oriental buyers were inquiring in a fair way but have been confining most of their buying to the Gulf district. The request from Great Britain for kerosene in bulk is a little better than anticipated, but French buyers are not operating very freely. No cargo movements were heard of.

Here, water white kerosene in single tank cars delivered to the trade is held at 8 cents a gallon. Demand from jobbers has been far more spirited and it is doubtful if this price could be shaded on a firm bid for a good sized quantity. The tank wagon market has been fairly well maintained at 13 cents a gallon.

Gas and Bunker Oil

Gas oil is dull. For 36-40 refiners are demanding 5¼ cents a gallon at the Bayonne refineries, but foreign buyers are showing little interest at this figure. Refiners are somewhat firmer than a week ago. Bunker oil is holding fairly steady. Stocks on hand are by no means heavy and the price is fairly well maintained at $1.75 per barrel, f. o. b. New York harbor refinery. Diesel oil is in slightly better demand at $2 per barrel, refinery. There has been some talk of a possible cut in this direction during the next few weeks.

Lubricants Are Steadier

The lubricating oils are somewhat steadier. Foreign buyers in the main appear content with confining their purchases to a few hundred here and there, but the refiners are working off fairly large quantities on a consignment basis and are not pressing sales at concessions.

Cylinder stocks are fairly well maintained on a basis of 23 to 23½ cents a gallon for Pennsylvania 600 steam refined in barrels New York, although a few are quoting as high at 24½ to 25 cents a gallon. The spindle oils are in slightly better demand but the aggregate turnover is rather small. Black oil is marking time.

Paraffin oils are steady. Demand from abroad has been rather spasmodic and no really good sized movements developed. Engine oils in general are meeting with a fair export demand, but no cargo sales of lubricants were disclosed, although rumor had it that one of the leading refiners had booked a cargo of 35,000 barrels of lubricants for October shipment to Great Britain.

The wax situation has not eased up any and there continues a good active demand from many of the leading European consumers. Interest is still centered on white crude scale, which is bringing more than 118-122 fully refined. For 122-124 A. m. p. white crude scale, in slack barrels f. a. s. New York, refiners are asking 5⅝ cents a pound while fully refined 118-122 A. m. p. is quoted at around 5½ to 5⅝ cents the inside price being possible in one or two directions on a firm bid. Semi-refined was rather quiet at 5¾ cents for 122-124 A. m. p.

Big wax interests declare that business has been brisker the past few weeks than during any such similar period so far this year, and as yet there is no signs of a let-up in the demand. Stocks of many grades are rather scarce, particularly 105-108 A. m. p. match wax which is nominally quoted at 6⅛ cents a pound.

The majority of export orders for white crude scale were from British manufacturers. German interests have also been doing quite a little buying and orders for from 50 to 300 tons were very numerous. Some of the large refiners are reported sold up to the first of the year.

Petrolatum More Spirited

Export demand for petrolatum was a shade more spirited than during the previous weeks. Stocks on hand are a shade in excess of the demand but nevertheless refiners feel confident of the future and are not inclined to press sales. Snow white was in steady demand, with British manufacturers of facial creams purchasing heavily, for their fall requirements. French manu-

Export Markets

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

Illuminating Oils

	Sept. 1	Aug. 25
Bulk, gal., Bayonne	6.50	6.50
Barrels, gal., Bayonne, cargo	13.50	13.50
Cases, gal., Bayonne	16.90	16.90

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naptha
(Cents per Gallon)

U. S. Motor, dead bulk	12.25	12 25
U. S. Motor, cases	26 40	26 40
Export Naptha bulk	13 25	13 25
63-66 deg. bulk	14 50	14 50
66-68 deg. bulk	16.00	16.00

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk	12.75	12.75
58-59 deg. cases	26.40	26 40
Export grade, U. S. Motor Specifications bulk	12.25	12.25
63-65 deg. bulk	14 50	14 50
68-72 deg. bulk	17.00	17.00

	Bulk	Barrels	Cases
Standard white 110	6.50	13.50	16.90
Water white 150	7.50	14.50	17.90

The Texas Company

Gasoline, cases		26.40	26.40
Kerosene	**Bulk**	**Barrels**	**Cases**
Standard White	6.50	13.50	16.90
Prime White	7.00	14.00	16.40
Water White	7.50	14.50	17.90

New York Market

The following prices are quoted by eastern seaboard independent refineries on products which are manufactured from Mexican crude transported from Tampico to the refinery by tanker and from California crude.

	Sept. 1
*Gasoline (U. S. Motor) gal., Tank Cars	– .11½
‡Bunker oil (F. O. B. New York) bbl.	–1.75
Diesel Oil F. O. B. Refinery bbl.	–2.00
Gas Oil (36-40 refinery) gal	–.05¼
†Kerosene, 45-150 W.W.Bulk Del.,N.Y.	–.08

*Delivered.
†Nominal.
‡Plus .06¼ charge lighterage.

Gulf Export Market

(Actual Sales Prices)

U. S. Motor gasoline	.09	–09½
64 Gravity gasoline		–11
Water white kerosene		–06¾
Prime white kerosene		–05¾
26-28 Gas Oil		–04½
32 plus Gas Oil		–04½
Bunker Oil, F. O. B.		–1.35

Crude Oil Prices All Fields

EASTERN FIELDS

	1924	1923			1922		
	Sept. 1	High		Low	High		Low
Bradford-Allegany	$2.85	Feb.15	$4.25	Nov.13 $2.60	Jan.1	$4.00	July 19 $3.00
Other Pennsylvania	2.75	Feb.15	4.00	Nov.13 2.35	Jan.1	4.00	July 19 3.00
Cabell	1.45	Feb.15	2.76	Nov.13 1.20	Jan.1	2.61	July 19 1.86
Corning	1.75	Feb.15	2.30	Nov.14 1.25	Jan.1	2.40	July 20 1.75
Somerset	1.55	Feb.15	2.55	Nov.13 1.15	Jan.1	2.40	July 19 1.65
Somerset Light	1.70	Feb.15	2.80	Nov.13 1.30	Jan.1	2.65	July 19 1.90
Ragland	.90	Feb.15	1.10	July 10 .75	Jan.1	1.25	July 19 1.00

Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Wooster	$1.65	Feb.19	$2.50	Nov.9 $1.25	Jan.1	$2.70	Sept.21 $1.90
Lima	1.83	Feb.19	2.58	Nov.9 1.43	Jan.1	2.48	July 20 1.98
Indiana	1.63	Feb.19	2.38	Nov.9 1.23	Jan.1	2.28	July 20 1.78
Princeton	1.62	Feb.19	2.37	Nov.8 1.22	Jan.1	2.27	July 20 1.77
Lodi	1.65	Feb.19	2.50	Nov.9 1.25	Jan.1	2.70	July 20 1.90
Illinois	1.62	Feb.19	2.37	Nov.8 1.22	Jan.1	2.27	July 20 1.77
Waterloo, Ill.	1.10	Feb.19	1.85	Nov.9 .70	Jan.1	1.75	July 20 1.25
Plymouth	1.00	Feb.19	1.75	Nov.9 .60	Jan.1	1.65	July 20 1.15
Canadian Petrolia	2.23	Feb.19	2.98	Nov.9 1.83	Jan.1	2.88	July 20 2.38

MID-CONTINENT AND NORTH TEXAS FIELDS

Below 30	$1.10	Currie	$1.35
30-32.9	1.25	Mexia	1.35
33 and above	1.50	Powell	1.35

Humble's Ranger Prices

Below 30	$1.00	33-35.9	$1.40
30-32.9	1.20	36 and above	1.60
Wichita and Archer Cos.	1.35		

Magnolia's Price Schedule
North and North-Central Texas, Okla., and Kan.

Below 28	$ .90	Corsicana, light*	$1.25
28-30.9	1.00	Corsicana, heavy	.90
31-32.9	1.10	Thrall	1.00
33 and above	1.25	*Including Powell and Mexia	

NORTH LOUISIANA-ARKANSAS FIELDS

Caddo, 38 degrees and above	$1.35	do 35 to 37.9	$1.15
do 35 to 37.9	1.25	do 32 to 34.9	1.00
do 32 to 34.9	1.15	DeSoto	1.35
do below 32	1.00	Crichton	1.15
Homer, 35 and above	1.35	Bellevue	1.25
do 33 to 34.9	1.25	Smackover, 26 and above	.95
do 31 to 32.9	1.15	25 to 25.9	.80
do below 31	1.00	24 to 24.9	.70
Haynesville, 33 and above	1.25	Below 24 Be	.60
do below 33	1.15	Stephens 28 and above	1.00
El Dorado, 33 and above	1.35	do 26-27.9	.95
do below 33	1.25	do 23-25.9	.80
Bull Bayou, 38 and above	1.30	do below 23	.60
		Cotton Valley	.80

GULF COASTAL FIELDS

	1924	1923			1922		
	Sept. 1	High		Low	High		Low
Spindletop	$1.35	Mar.15	$1.75	Aug.18 $1.00	Jan.1	$1.25	Dec.30 $1.25
Goose Creek "A"	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Goose Creek "B"	1.15	Mar.15	1.50	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Sour Lake	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Humble	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Batson	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Hull "A"	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Hull "B"	1.15	Mar.15	1.30	Jan.1 .80	Jan.1	1.25	Dec.30 1.25
West Columbia	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Edgerly	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Vinton	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Jennings	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Dayton	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Saratoga	1.35	Mar.15	1.75	Aug.18 1.00	Jan.1	1.25	Dec.30 1.25
Orange "A"	1.35						
Orange "B"	1.15						
Pierce Junction "A"	1.35						
Pierce Junction "B"	1.15						

WYOMING FIELDS

Elk Basin	$1.45	Feb.17	$2.10	Nov.9 $ .95	Jan.1	$1.90	Aug.4 $1.20
Grass Creek	1.45	Feb.17	2.10	Nov.9 .95	Jan.1	1.90	Aug.4 1.20
Big Muddy	1.00	Feb.17	1.65	Nov.9 .45	Jan.1	1.40	Aug.4 .70
Salt Creek	1.10	Feb.17	1.65	Nov.9 .60	Jan.1	1.40	Aug.4 .70
Lance Creek	1.40	Feb.17	2.10	Nov.9 .80	Jan.1	1.90	Aug.4 .20
Rock Creek	1.20	Feb.17	1.75	Nov.9 .60	Jan.1	1.50	Aug.4 .80
Osage	1.40	Feb.17	2.10	Nov.9 .80	Jan.1	1.90	Aug.4 1.20
Cat Creek, Mont.	1.45	Feb.17	2.10	Nov.9 .95	Jan.1	1.90	Aug.4 1.20
Sunburst, Mont.	.90	Feb.17	1.50	June 6 .70			

CALIFORNIA

14-19.9	$1.00	25-25.9	$1.10	30-30.9	$1.25	
20-20.9	1.01	26-26.9	1.13	31-31.9	1.28	
21-21.9	1.02	27-27.9	1.16	32-32.9	1.31	
22-22.9	1.03	28-28.9	1.19	33-33.9	1.34	
23-23.9	1.05	29-29.9	1.22	34-34.9	1.37	
24-24.9	1.07			35 and above	1.40	

facturers of toilet preparations were also reported in the local petrolatum market, but just what grades they were after was not known. Snow white is available at from 12¾ to 13 cents a pound while lily white is fairly well sustained at 10 cents, and it is doubtful if anything can be had below this figure.

The medicinal oils were rather flat. Buying of late has been largely for current requirements although there has been a good European inquiry for medicinal oil to be delivered over the next few months. Prices are quoted alongside.

British Importations

During the week ended Aug. 4, there were imported into the United Kingdom 31,020,663 gallons of petroleum and products. Larger receipts included.

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Anglo-Amer.	416,150	Lubes	Baytown
Anglo-Amer.	1,039,250	Fuel Oil	Tampico
Immediate Trans	125,205	Kerosene	Constantza
Immediate Trans	213,900	Gasoline	Constantza
Anglo-Mex.	1,134,750	Gas Oil	Bat. Rouge
Davies & Newman	421,000	Benzine	Ostermoor
Texas Oil Co.	2,560,738	Benzine	Port Arthur
At Liverpool—			
British Mex.	114,435	Fuel Oil	Tampico
United Caucasian	495,000	Kerosene	New York
Anglo-Mex.	104,206	Fuel Oil	Tuxpan
At Bristol—			
Anglo-Amer.	155,665	Gasoline	Rouen
Anglo-Amer.	569,700	Fuel Oil	Beaumont
Anglo-Amer.	392,450	Gas Oil	Beaumont
At Manchester—			
Shell-Mex.	342,058	Benzine	San Pedro
Anglo-Amer.	346,370	Fuel Oil	New York
At Newcastle—			
Anglo-Mex.	103,390	Gas Oil	New Orleans
At Southampton—			
Anglo-Mex.	2,975,016	Fuel Oil	Tampico
Anglo-Mex.	855,972	Fuel Oil	Tuxpan
Anglo-Amer.	599,590	Gas Oil	Sabine
At Grangemouth—			
Scottish Oils	1,566,480	Crude	Abadan
At Dover—			
Shell	1,236,051	Fuel Oil	Tampico
At Swansea—			
National Oil Ref.	13,500,000	Crude	Abadan

Kentucky Market Firmer

LEXINGTON, KY., Aug. 30.—Central Kentucky markets are firmer. All but 68-70 gasoline have been advanced ¼ cent over the week. Fuel oil also is stronger. Prices at central Kentucky plants are 58-60 gasoline 10¼ cents; 60-62, 11¼; 62-64, 11½; 64-66, 11¾ and 68-70, 12¾. Kerosene 42-44 water white 6¼; 34-40 gas oil, 4⅞, and 24-26 fuel 3½ cents.

Hawkeye Suit Continued

WATERLOO, IA., Aug. 30.—The case of the Hawkeye Oil Co. of Waterloo against the Standard Oil Co. of Indiana, charging that the Standard took some of the Hawkeye's customers by causing them to break their contracts, has been continued until the next term of court. The Hawkeye asks for a restraining order and the case was to have been argued in Marion, Iowa Aug. 27.

MARINE DEPARTMENT

of

American Bridge Company

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OIL STOCKS AND FINANCES

Most Oil Company Earnings Lower This Year; Few Net More

CLEVELAND, Aug. 30

REPORTS of several oil companies operating in or having interests representative of every part of the United States, show that earnings in the first half of 1924 in most cases were lower than in the corresponding period of last year.

There are four exceptions in recent reports. These exceptions were the Tide Water Oil Co., Atlantic Refining Co., Associated Oil Co. and Pacific Oil Co.

One of these, the Atlantic Refining Co., however, has suspended dividend payments on its common stock for the first time since 1914 when dividends on common were first paid following the dissolution in 1911. Another of the Standard group, the Standard Oil Co. of Kansas, passed its third quarter dividend recently because of increased earnings from its refining operations.

Oil companies whose recent reports show lower earnings this year include the California Petroleum Corp., Shell Union Oil Corp., Skelly Oil Co., Pennok Oil Co., Texas Pacific Coal & Oil Co. and Superior Oil Co.

Tidewater Oil Co.

The Tide Water Oil Co. reports net of $3,323,116 in the first half of 1924 after expenses, federal taxes, depreciation and depletion, equal to $6.64 a share on the common stock as against $3,036,435 in first half of 1923 before federal taxes but after other charges and reserves, equivalent to $6.11 a share on a slightly smaller amount of common stock outstanding that year. Consolidated income accounts of the Tide Water for the two six-month periods compare:

	1924	1923
Gross sales	$ 31,608,026	$27,975,441
Expenses	25,428,888	23,616,284
Operating inc.	$ 6,179,138	$ 4,359,157
Other income	290,667	660,939
Total income	$ 6,469,805	$ 5,020,096
Deprec., deplet.	2,694,762	1,998,710
Federal taxes	471,880	.....
Balance	$ 3,303,163	$ 3,021,386
Outside stockholders share*	19,953	15,050
Net profit	$ 3,323,116	$ 3,036,435
Dividends	1,000,057	.....
Surplus	$ 2,323,059	$ 3,036,435

*Debit.

Atlantic Refining Co.

The Atlantic Refining Co. in the first six months netted $2,214,758, or $3.02 a share on the common stock as against $1,802,734 or $2.20 a share on the common in the first half of 1923. Concerning the omission of the dividend and company's report President J. W. Van Dyke said:

"Net profits are after conservative reserves for depletion and depreciation at the usual rates, together with an adjustment of inventory prices to market as of June 30, 1924, and also after provision for reduction of price of finished products which is likely to occur in the second half of the year.

"Our cash position is strong, all bank loans having been paid off immediately following the recent issue of $15,000,000 4½ per cent short-time notes.

"Gross income from operations was $64,000,000, compared with $58,000,000 for the first six months of 1923.

"Because of the uncertainty of business conditions in general and petroleum industry in particular it was the opinion of the board of directors that for the best interests of the common stockholders all cash resources should be conserved at the present time; and, further, that it would be advisable to continue this policy until the recent issues of 4½ per cent gold notes had been paid off at their various maturities or by prior redemption until the call clause contained in said notes."

Consolidated income account of the Atlantic Refining for first halves of 1924 and 1923 compare:

	1924	1923
Gross income	$64,146,059	$58,292,114
Expenses	55,617,338	51,051,505
Operating inc.	$ 8,528,721	$ 7,240,609
Other income	500,296	704,735
Total income	$ 9,029,017	$ 7,945,344
Interest	395,650	375,435
Insurance, etc.	486,695	260,264
Deprec., deplet.	4,138,543	4,153,019
Federal taxes	365,000	178,200
Inventory adj.	1,428,371	1,175,692
Net profits	$ 2,214,758	$ 1,802,734
Dividends	1,700,350	1,700,000
Surplus	$ 514,408	$ 102,734
P. & L. surplus	21,411,762	21,251,181

Pacific Oil Co.

The Pacific Oil Co. earned at the rate of $1.66 a share this year as against $1.29 a share last year after all charges including depreciation, depletion and federal taxes. Income account for the two six-month periods compare:

	1924	1923
Gross earnings	$11,102,669	$9,300,588
Expenses, ord. taxes	5,017,593	4,372,624
Net income	$ 6,085,076	$4,927,964
Other income	1,569,511	1,214,339
Total income	$ 7,654,587	$6,142,303
Deprec., deplet.	1,493,055	1,473,528
Federal taxes	354,725	133,586
Net profits	$ 5,806,807	$4,535,189

Associated Oil Co.

Associated Oil Co., of which Pacific Oil Co. 58 per cent of the stock netted $1.98 a share on the $25 common as against $1.41 a share in the first half of 1923. Consolidated income accounts of the two six-month periods compare:

	1924	1923
Operating inc.	$8,698,627	$4,613,048
Taxes, interest	1,773,988	822,503
Net profit	$6,924,639	$3,790,545
Deprec., deplet.	2,490,632	1,537,473
Balance	$4,434,007	$2,253,072

Concerning the company's operations in the six months President Paul Shoup said:

"During the period covered by this statement there was expended for the purchase of property, drilling and development $3,613,276, of which $916,782, covering labor and incidental drilling expenses, was charged to operations and $2,696,494 to investments.

"During the period the company acquired the following proven and prospective oil land: 255.31 acres of fee lands, 1,192.74 acres under lease and a half interest in an additional 1,497.33 acres under lease. Included in the last is Texas property known as the Garcia lease, on which are eight producing wells and other improvements. The other half interest in this acreage was taken by Pacific Oil Co. Associated Oil has twenty strings of tools in operation in California, Texas and Alaska."

Pennok Oil Co.

Pennok Oil Co.'s earnings this year show considerable slump from those of last but are still good, the net in the first half after all charges except federal taxes being equivalent to $1.75 a share on the $10 stock as against $4.85 a share in the first half of last year. The income accounts for the two periods follow:

	1924	1923
Gross income	$1,056,137	$2,349,083
Expenses	187,981	232,292
Net oper. income	$868,156	$2,116,791
Other income	51,624	117,501
Interest, disc. rec.	57,274	131,874
Total income	$977,054	$2,366,166
Abandonments	.....	93,214
Special reserve	28,439	.....
Deprec., deplet.	294,345	454,071
Net before U.S. tax	$654,270	$1,818,881
Dividends	187,500	150,000
Surplus	$466,770	$1,668,881

In the second quarter of this year Pennok netted $342,990 after all charges except federal taxes, equal to 91 cents a share as against $1,119,888 or $2.98 a share in the second quarter of 1923.

Superior Oil Corp.

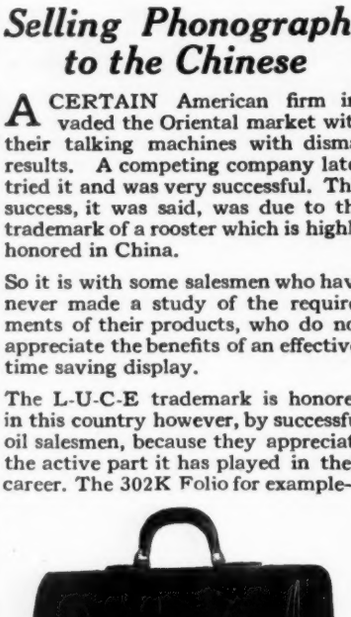
Superior Oil Corp. lost $22,422 in its operations in the second quarter of this year as against $86,370 in the first

Selling Phonographs to the Chinese

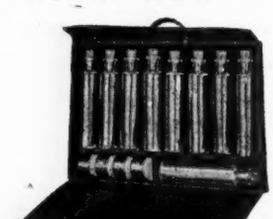
A CERTAIN American firm invaded the Oriental market with their talking machines with dismal results. A competing company later tried it and was very successful. This success, it was said, was due to the trademark of a rooster which is highly honored in China.

So it is with some salesmen who have never made a study of the requirements of their products, who do not appreciate the benefits of an effective, time saving display.

The L-U-C-E trademark is honored in this country however, by successful oil salesmen, because they appreciate the active part it has played in their career. The 302K Folio for example—



Made of heavy, double weight muleskin with reinforced bottom and strong handle and lock. The edges are turned and locked stitched. One of the three pockets contains



an inner case which holds six 4-oz. bottles and five grease jars. Covered with durable Keratole and lined with velvet.

302K Folio complete with inner case and your name embossed in gold only $7.50 Net. Order one today and try it out. We guarantee satisfaction.

Ask for our Free Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

quarter and $216,873 in the second quarter of 1923. However, the quarter was the best the company has had in the last two years. Comparative income accounts for the first halves of this year and last follow:

	1924	1923
Gross income	$796,486	$816,366
Expenses, interest	376,068	377,545
Depreciation	212,949	242,115
Deplet. of oil reserves	316,264	441,741
Net loss	$108,791	$245,035

Texas Pacific Coal & Oil Co.

Texas Pacific Coal & Oil Co. for six months reports income equivalent to $1.50 a share on the $10 stock before depreciation, depletion and federal taxes as compared with $2.08 a share in the first half of 1923. Comparative statements for the two six-month periods follow:

	1924	1923
Gross earnings	$3,186,155	$3,180,885
Expenses	1,880,986	1,464,415
Operating income	$1,305,169	$1,716,470
Other income	71,008	42,544
Total income	$1,376,177	$1,759,014
Deduction	108,319	.....
Net income*	$1,267,858	$1,759,014

*Before depreciation and depletion.

Net income for the second quarter before charges was $686,254 as against $581,604 in the second quarter of 1923.

California Petroleum Corp.

California Petroleum Corp. in the six months earned 5.87 per cent on the combined peferred and common stock in the six months as against 12.88 per cent in the first half of 1923. Consolidated income accounts for the two six-month periods compare:

	1924	1923
Gross earnings	$9,007,903	$9,867,097
Expenses	3,666,654	4,074,843
Operating inc.	$5,341,249	$5,792,254
Deprec., deplet.	1,499,664	1,330,958
Drilling, exp. etc.	1,567,983	.....
Bond interest	302,823	23,733
Federal taxes	211,845	525,246
Net income	$1,758,934	$3,912,317
Preferred div.	419,758	437,725
Common div.	608,195	608,195
Reserve*	260,634	310,147
Surplus	$ 470,347	$2,556,250

*For redemption of preferred stocks and bonds of subsidiary companies.

Shell Union Oil Corp.

Shell Union Oil Corp. in the first half of 1924 earned $1.08 a share on the common after preferred dividends, depreciation, depletion ,and other charges but before federal taxes, as compared with $1.27 a share in the first half of 1923. Consolidated income accounts for the two half years follow:

	1924	1923
Total income	$23,452,726	$18,082,472
Deprec., deplet.	11,987,041	7,279,623
*Net income	$11,465,685	$10,802,849
Preferred div.	595,752	600,000
Common div.	5,000,000	4,000,000
Surplus	$ 5,869,933	$ 6,202,849

*Before federal taxes.

Skelly Oil Co.

Income of the Skelly Oil Co. declined slightly in the first half of this year as compared with first half of last year being after expenses and general taxes but before depreciation, depletion and federal taxes $4,580,462 as against $4,714,615 in the corresponding period of last year. Comparative income statements for two periods follow:

	1924	1923
Gross income	$9,668,220	$11,720,118
Expenses, general taxes, etc.	5,087,758	7,005,503
Operating income	$4,580,462	$4,714,615
Interest, discount	465,946	384,645
Depreciation, deple.	2,614,571	.....
Net income*	$1,499,945	$4,329,970

*Before federal taxes.

Skelly's net income for the second quarter of 1924 after interest, discounts, depreciation and depletion but before federal taxes was $596,033 or 72 cents a share as compared with $903,912 or $2.40 a share in the second quarter of 1923.

Cleveland Stock Market

August 29

	Par	Bid	Asked	1923 High	1923 Low
Canfield Oil Co.	$100	135	....	.....	.....
do pfd.	100	92	....	95¼	95
National Refining	25	39	40	53	33¾
do pfd.	100	124	130	126	116
Paragon Refining	25	6¾	7	12¾	5¼
do pfd.	100	40		75	40
Fred G. Clark Co.	10	3¾	4	6	2

x Ex. Dividend

Oil Dividends

	Amount	Payable	Record Stock of
Chesebrough Mfg. q.	62½c	Sept. 30	Sept. 10
do pfd. q.	$1.75	Sept. 30	Sept. 10
N. Y. Transit q.	50c	Oct. 15	Sept. 19
Phillips Pet. q.	50c	Oct. 2	Sept. 17
Pure 8% pfd. q.	$2	Oct. 1	Sept. 15
do 6% pfd. q.	$1.50	Oct. 1	Sept. 15
do 5¼% pfd. q.	$1.25	Oct. 1	Sept. 15
Shell Union q.	25c	Sept. 30	Sept. 8
S. W. Pa. P.L. q.	$2	Oct. 1	Sept. 15

Generally Fair Weather Due This Week

CHICAGO, Aug. 31.—Generally fair weather, with rather cool temperatures, is predicted by the weather man for the first part of this week. In the latter half of the week, increasing cloudiness will prevail and temperatures will rise to above normal. Occasional showers will fall in the Great Lakes region and the Ohio river valley about the middle of the week. Showers are forecast for the regions west of the Mississippi river in the latter part of the week.

Standard Oil Co. of Indiana territory has experienced record high temperatures for the year and every day has been bright during the last week. Motorists have responded even better than was expected and gasoline business has been good.

South Texas Markets Steady

HOUSTON, Aug. 30.—South Texas lubricant markets are steady. Demand is normal for the season. Prices are unchanged.

Transactions In Oil Shares on New York Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Aug. 30 Sales	First	High	Low	Last	Ch'ge
.....	.....	43	25	(sh) 200,000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
29½	24⅞	34⅝	27½	$40,060,500	$25	Associated Oil	87½cQ	July 25, 24	1,400	29	29¼	28⅝	29	— ⅛
160	98¾	140¾	78½	50,000,000	100	Atlantic Refining	.....	June 16, 24	7,400	89½	89	86¾	88	—2¼
120	115	118	109¾	20,000,000	100	do pfd	$1¾Q	Aug. 1, 24	300	112½	113¼	112½	113¼	+1½
35	9¾	21⅝	14	14,000,000	25	Barnsdall Corp. A	.....	Apr. 30, 21	6,200	20½	19½	18	19	—1¾
22	6	16¾	10	3,713,275	25	do B	.....	Apr. 30, 21	100	13½	13½	13½	13⅝	— ½
9⅝	1¾	5	1¾	(sh) 150,000	N.P.	Caddo Central O. & R	.....	.....	200	1¾	1¾	1¾	1¾	— ⅛
29¾	17⅝	29¼	19½	$ 17,377,000	$25	California Petroleum	43¾cQ	Sept. 2, 24	5,900	21⅝	21¾	20⅞	21¾	+ ⅛
110½	90½	107	92½	11,955,100	100	do pfd	$1¾Q	July 1, 24	500	95¼	95½	94⅞	94⅞	— ⅛
62¼	22¾	40¾	23⅛	(sh) 1,217,427	N.P.	Cosden & Co	.....	Aug. 1, 23	26,000	27⅜	27⅜	25	27	— ⅜
90⅜	83¾	95	84	$ 6,998,000	$100	do pfd	$1¾Q	Sept. 1, 24	200	85½	85½	†84	84	—1¾
54	23	47¼	31⅜	19,830,000	100	General Asphalt Co	.....	.....	6,400	43	44	42	43¾	+ ⅜
88	60	84	71½	7,416,000	100	do pfd	$1¼Q	Sept. 2, 24	200	83½	83½	83	83	—1
.....	.....	45	38⅜	38,015,100	25	General Petroleum	50cQ	June 15, 24	15,600	41¾	41⅞	39¾	41	—1
78	40¾	82½	61	25,000,000	100	Houston Oil Co	.....	.....	11,000	70¾	75⅝	68⅝	71¾	+1⅝
11¼	3⅜	9¼	6¾	(sh) 450,000	N.P.	Independent Oil & Gas	25cQ	June 30, 24	700	7½	7½	7¼	7½	0
19	1	2⅞	¼	$ 5,000,000	$25	Indiahoma Refining Co	.....	July 1, 21	1,500	¼	½	¼	¼	0
8½	3½	7¾	3¾	7,830,450	10	Indian Refining Co	.....	Dec. 15, 20	900	6¼	6¾	5¾	5¾	— ½
49½	49½	74	60	2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
19¼	7¾	16⅞	10⅜	1,094,744	N.P.	Invincible Oil Corp	.....	.....	4,700	13	13	12¾	12¾	— ¼
5½	¼	1	¼	$ 1,784,620	$10	Kansas & Gulf Corp	.....	.....	.....	.....	.....	.....	.....	.....
28⅜	16	37½	25¾	(sh) 261,950	N.P.	Maracaibo Oil	.....	.....	2,300	28½	29½	27¼	29½	+2
59⅝	17½	42	29	(sh) 1,549,190	N.P.	Marland Oil Co	.....	July 1, 23	14,000	31⅛	32⅞	31⅛	32⅞	— ⅛
193	182	.....	.....	$ 45,942,800	$100	Mexican Petroleum Co	$3Q	July 21, 24	.....	.....	.....	.....	.....	.....
105¼	100¼	.....	.....	12,000,000	100	do pfd	$2Q	July 21, 24	.....	.....	.....	.....	.....	.....
23¾	5¾	24⅛	14¾	(sh) 357,900	N.P.	Mexican Seaboard Oil	50cQ	Aug. 15, 24	7,000	21¼	21¼	20½	21⅛	0
23¼	6	22¾	12⅞	(sh) 270,000	N.P.	do V. T. C	50cQ	Aug. 15, 24	2,000	21	21¼	20⅝	21⅛	+ ⅛
12¼	3½	6⅞	1	$ 29,798,450	$10	Middle States Oil Corp	.....	July 1, 23	9,500	1⅜	1½	1¼	1⅜	— ⅛
67	31	39¾	31⅛	$ 39,626,000	25	Ohio Fuel Supply Co	62½cQ	July 15, 24	1,500	39½	39¾	38½	38½	—1¼
52⅛	31¼	58¾	45	(sh) 3,500,000	N.P.	Pacific Oil Co	$1S.A.	July 21, 24	16,900	47¼	47¾	46⅛	47¾	+ ¾
93⅛	58	61¼	42⅝	$ 48,292,450	$50	Pan American P. & T	$1Q	July 21, 24	22,500	56½	57¼	51	53¾	—2¼
86	50⅝	59⅜	41¼	81,280,000	50	do Class B	$1Q	July 21, 24	83,700	55	56¼	50¼	53	—2
6¼	1¼	3⅜	1⅝	(sh) 198,770	N.P.	Panhandle P. & R	.....	.....	200	1¾	1¾	† 1⅝	1⅝	0
68	27½	40¾	35	$ 3,855,500	$100	do pfd	.....	July 2, 23	.....	.....	.....	.....	.....	.....
69⅝	19¾	42¾	31¾	(sh) 1,479,702	N.P.	Phillips Petroleum	50cQ	June 30, 24	21,500	33⅛	34	32½	33½	0
6	1¾	4½	1½	$ 29,622,925	$25	Pierce Oil Corp	.....	.....	2,100	1⅞	1⅞	1¾	1¾	0
44½	16	39¾	20	15,000,000	100	do pfd	.....	Feb. 1, 22	2,300	27½	27	24	26	—1½
58⅛	17	43½	22¾	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	6,600	28	29¼	27½	29¼	+1¾
49½	36	47⅞	22	2,845,350	50	do pfd	87½cQ	May 5, 24	.....	.....	.....	.....	.....	.....
32	16¾	26⅜	20	70,091,425	25	Pure Oil Co	37½cQ	June 1, 24	4,200	23½	23½	22⅝	23½	+ ⅜
100	82½	98⅝	92	13,000,000	100	do 8% pfd	$2Q	July 1, 24	300	98	98	97½	97½	—1
55¼	40½	59¾	41¾	(sh) 611,579	13.40	Royal Dutch, N. Y. shares	$3.18⅓	Aug. 12, 24	4,000	42⅞	43½	42⅛	43½	— ⅛
41¾	29⅛	41¾	33	(sh) 152,063	£2	Shell Transport & T	$1.07½	July 25, 24	400	34½	34½	33¾	33¾	—1½
19¼	12⅜	20⅜	15¾	(sh)10,000,000	N.P.	Shell Union Oil Corp	25cQ	June 30, 24	6,400	16⅝	16⅞	16¼	16¾	+ ⅜
95	89½	96⅜	91½	$ 20,000,000	$100	do pfd	$1½Q	Aug. 15, 24	600	96	96	96	96	0
16	6¾	14⅞	10⅜	7,204,030	10	Simms Petroleum Co	.....	.....	2,500	13¾	13⅞	13½	13⅞	+ ⅛
39⅜	16	27⅛	15	(sh) 4,480,782	N.P.	Sinclair Consolidated	.....	May 31, 24	10,800	18⅛	18	17⅛	17½	— ⅛
99⅝	80¼	88⅜	77	$ 18,914,900	$100	do pfd	$2Q	Aug. 15, 24	.....	.....	.....	.....	.....	.....
35	12⅜	29	17⅜	20,579,090	25	Skelly Oil Co	.....	.....	2,200	19¼	19⅜	18⅜	19	0
64½	47⅛	68⅜	55½	283,630,950	25	S. O. California	50cQ	June 16, 24	12,900	57	57⅞	56¼	57⅞	+ ½
44⅛	30⅞	42¾	33	504,251,775	25	S. O. New Jersey	25cQ	June 16, 24	17,900	35¼	35⅝	34⅜	35⅝	+ ⅛
118¼	114¾	119⅜	115⅜	199,972,900	100	do pfd	$1¼Q	June 16, 24	600	119⅛	118¼	118	118	—1⅜
6¾	2	8⅛	2⅜	(sh) 998,828	N.P.	Superior Oil Corp	.....	Dec. 20, 20	54,900	5⅝	5¾	3½	4⅛	—1⅜
52⅞	34⅝	45⅜	37¾	$164,450,000	$25	The Texas Co	75cQ	June 30, 24	5,200	41⅜	41½	40¼	41	— ⅜
24¾	5½	15¾	8¼	8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	1,500	9⅛	9¼	8½	9⅛	0
144	94	151	118¼	50,003,700	100	Tide Water Oil Co	$1Q	June 30, 24	500	121⅞	123½	120¼	123½	+4½
14¾	1¼	6¼	3¾	(sh)2,957,529	N.P.	Transcontinental Oil Co	.....	.....	19,000	4⅞	5	4½	4¾	— ⅛
99¾	81	126	94	$ 18,000,000	$100	Union Tank Car Co	$1¼Q	Sept. 2, 24	1,900	125	*126	116	117	—10½
114	100	116¾	106¼	12,000,000	100	do pfd	$1¼Q	Sept. 2, 24	300	114	114⅛	114	114	— ⅝
30⅜	20	29⅜	23⅛	(sh) 460,000	N.P.	White Eagle Oil & Ref	50cQ	July 20, 24	1,300	23⅞	24	23¾	24	+ ⅛

*New High †New Low xEx-Dividend Total Sales 428,700

Standard Oil Stock Traded In New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Aug. 29 Sales	First	High	Low	Last	Ch'ge
19¾	13½	18	14⅜	£3,000,000	£1	Anglo American	55cS.A.	May 15, 24	1,700	15⅜	15⅜	15⅛	15¼	— ¾
7⅞	2½	4⅞	3	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	1,900	3	3	3	3	— ⅛
150	108	265	155	$ 1,000,000	$100	Borne-Scrymser	$4S.A.	Apr. 15, 24	.....	.....	.....	.....	.....	.....
94½	69	85½	57½	10,000,000	50	Buckeye Pipe Line	$1Q	June 14, 24	150	59	59	†57½	57½	—1½
.....	.....	52	48¾	3,000,000	25	Chesebrough Mfg. Co	62½cQ	June 30, 24	.....	.....	.....	.....	.....	.....
118	110	115	113	1,000,000	100	do pfd	$1¾Q	June 30, 24	.....	.....	.....	.....	.....	.....
50	32¼	54⅞	39¾	10,000,000	25	Continental Oil	50cQ	June 16, 24	.....	.....	.....	.....	.....	.....
47½	15	20	11¾	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
168	85	149	110½	3,000,000	100	Cumberland Pipe Line	$3Q	June 16, 24	10	145	145	145	145	0
117	87	105	94½	5,000,000	100	Eureka Pipe Line	$2Q	Aug 1, 24	60	95¾	95¾	95	95	— ¾
78	55	69¾	53	16,000,000	100	Galena Signal Oil	$1Q	June 30, 24	120	58	58	54	54	—4
105	104	103¾	100½	4,000,000	100	do new pfd	$2Q	June 30, 24	.....	.....	.....	.....	.....	.....
116	108	116	103½	2,000,000	100	do old pfd	$2Q	June 30, 24	.....	.....	.....	.....	.....	.....
41¾	28	43¾	30	43,750,000	25	Humble Oil & Ref	30cQ	July 1, 24	1,900	34⅞	34⅞	34½	34⅞	— ⅛
171	115	161	126	20,000,000	100	Illinois Pipe Line	$6S.A.	June 30, 24	.....	.....	.....	.....	.....	.....
123	92	119	98¾	39,222,750	25	Imperial Oil coupons	75cQ	Sept. 2, 24	545	104½	105½	104	105½	+1
103	78	100	88	5,000,000	50	Indiana Pipe Line	$2Q	Aug. 15, 24	100	90½	90½	90	90	0
24¾	13¼	22¼	16¾	(sh)7,118,138	N.P.	International Petroleum	25cQ	June 30, 24	5,900	18⅞	19¼	18½	19¼	— ¼
168	128	162	122	$188,000,000	100	Magnolia petroleum	$1Q	July 5, 24	.....	.....	.....	.....	.....	.....
29	19½	23⅞	20⅝	6,362,500	12½	National Transit	25cQ	June 14, 24	100	22	22	22	22	0
138	70	97	54½	5,000,000	100	New York Transit	50cQ	July 15, 24	110	63½	63½	59	59	—5
109½	90	107½	80	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 24	10	84	84	84	84	+1
85¾	48¾	79½	55	60,000,000	25	Ohio Oil Co	50cQ	June 30, 24	1,200	59	59	58	59	— ½
45¾	10½	43	27	10,000,000	25	Penn.-Mex. Fuel	.....	.....	500	33	33	31½	31½	—1¾
700	152	269	194½	60,000,000	100	Prairie Oil & Gas	$2Q	July 31, 24	1,770	207	208	205½	208	+ ½
135	93	111	100	81,000,000	100	Prairie Pipe Line	$2Q	July 31, 24	705	105½	106⅜	105¾	106	+ ⅜
212½	161	230	175	4,000,000	100	Solar Refining Co	$5S.A.	June 20, 24	10	182	182	182	182	—1
116	87	100	90	10,000,000	100	Southern Pipe Line Co	$2Q	Sept. 2, 24	250	90	91	†90	90½	— ¼
195	100	171	117	20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	700	134	137	131	137	+2
88¼	66½	89	81	3,500,000	100	Southwest Pa. Pipe Lines	$2Q	July 1, 24	.....	.....	.....	.....	.....	.....
69⅛	49⅛	68⅜	54¼	221,706,668	25	S. O. Indiana	62½cQ	June 16, 24	24,600	56⅞	57¼	56	56¾	— ⅛
57⅞	36½	50¾	32½	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,800	34¼	34½	33⅞	34½	— ¾
133	80	120	101	16,784,047	25	S. O. Kentucky	$1Q	June 30, 24	5,100	112½	112¾	110	111½	—1½
285	186	256½	198	3,000,000	100	S. O.. Nebraska	$5S.A.	June 30, 24	100	236	239	235	237	—2
48⅝	35⅛	53¾	37¾	225,324,650	25	S. O. New York	35cQ	June 16, 24	8,700	38⅞	39¼	38¼	38¾	— ¼
320	270	336	275	14,000,000	100	S. O. Ohio	$2½Q	July 1, 24	60	292	293	287½	287½	—4½
118	116	125½	118	7,000,000	100	do pfd	$1¾Q	Sept. 2, 24	10	119	119	119	119	+2¾
839	21	81	34	1,722,931	100	Swan & Finch	.....	Nov. 1, 19	10	45	45	45	45	0
58¾	35½	69¾	56½	61,523,075	25	Vacuum Oil Co	50cQ	June 20, 24	10,700	64¾	65	63¼	63¾	—1
28	19	30	25½	100,000	10	Washington Oil Co	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

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PRODUCERS - REFINERS
MARKETERS

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Denver Memphis
Chicago Waterloo
Tulsa Omaha
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New York Curb Bonds

Week Ended Aug. 29

	High	Low	Last	Ch'ge
Anglo-Amer. 7½s	102⅜	102¼	102¼	0
Cities Serv.do 7½s c	97½	97½	97½	0
do 7s D	96	95¾	96	0
Galena S O 7s	105½	105¼	105¼	— ¼
Gen Pet 6s	101	100¾	100¾	0
Gulf Oil 5s	98¼	98	98⅛	— ⅛
Pure Oil 6½s	95¾	95½	95¾	+ ⅛
S.O.New York do 7s '26	103½	103¼	103¼	— ¼
do 7s '27	105⅞	105½	105½	— ¾
do 7s '28	106	106	106	0
do 7s '29	106	106	106	0
do 7s '30	106½	106	106½	— ¼
do 7s '31	107¼	107	107¼	+ ¼
do 6½s	107½	106½	106½	—1½
Sun Oil 7s	102⅝	102⅝	102⅝	— ⅜
do 6s	101¼	101¼	101¼	+ ⅛
Tidal Osage 7s	104	103¾	104	+ ¼
United Prod	38	38	38	—1
Vacuum Oil 7s	107	106¼	106¼	— ⅝

New York Bonds

Week Ended Aug. 30

	High	Low	Last	Ch'ge
Atlantic Ref. deb 5s	99	98⅝	98⅝	— ⅜
Barnsdall 8s	101¼	101	101¼	0
Calif. Pet sf 6½s	100½	99½	99¾	— ¾
Empire G. & F. 7½s	96¾	95¼	96⅛	— ⅝
Humble Oil & Ref.5½s	100⅛	99⅛	99⅞	0
Marland 7½s B	102¾	102½	102¾	+ ⅛
do 7½s with war	121¾	121¾	121¾	— ¼
Mex Pet of Del cvt 8s	105¾	105½	105½	— ½
Pan-Am.P.& Ts 7s	104	103	103⅝	+ ⅜
Pierce Oil deb 8s	101½	101¼	101¼	— ¼
Prod. & Ref. 8s	110	109⅞	110	0
Sinclair Cons col 7s	93	92¼	92½	
do 6½s	86¾	86	86⅜	— ⅜
Sinclair Crude 6s	100⅜	100	100	— ⅜
do 5½s	100¼	100	100¼	+ ⅛
Sinclair Pipe Line sf 5	84¼	84	84⅛	+ ⅛
Tidewater Oil 6½s	103½	103¼	103¼	— ¼
Union Oil of Cal. 6s	102¼	102¼	102¼	— ⅛
Union Oil of Cal. 5s	99⅛	99⅛	99⅛	— ⅛
Union Tank Car 7s	104½	104	104⅜	— ⅛

New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Aug. 29 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4¼	10	Ark. Nat. Gas	600	4⅝	5	4½	4½	— ⅛
1⅛	.65	1⅛	.75	1	Boston & Wyo	600	90	90	86	90	0
7⅜	3⅛	6⅜	3⅜	25c	Carib. Synd	1,400	3⅞	3⅞	3⅝	3⅝	— ⅛
195	128	155	132	100	Cities Service	1,310	145	145	142½	144	—1
70	64¼	75¼	67¾	100	do pfd	500	75¼	75⅜	75¼	75⅜	+ ⅛
6⅜	5⅞	7	6⅜	10	do pfd. B	500	6⅞	7	6⅞	7	+ ⅛
19½	12⅝	16	13¾	10	do Bkrs. Sh	1,100	14⅜	14⅜	14¼	14¼	— ⅛
7⅜	1½	9	2⅜	N.P.	Creole Synd	21,500	9	9	8	8	— ⅛
18½	5	8	3	N.P.	Derby O. & R						
49½	22	34¼	17½	N.P.	do pfd						
1	.10	.60	.12	5	Federal Oil	1,000	15	15	15	15	—1
2¼	.23	.60	.25	10	Glenrock Oil	1,000	.28	.28	.28	.28	+ .8
68¼	45¾	65	56¾	25	Gulf Oil Corp	3,700	58½	59	58	58	— ½
9⅛	1	2⅝	.37	N.P.	Gulf State O.& R						
4	1½	2⅜	1¼	N.P.	Kirby Petroleum						
		5¾	2⅞	N.P.	Lago Petroleum	14,600	4⅝	5⅛	4⅝	5⅛	— ⅛
5⅛	1½	4⅞	2	N.P.	Marland of Mexico						
20¼	12⅞	19¾	16	10	Mountain Prod	1,400	18	18¼	17⅞	17⅞	— ⅛
15¼	12⅜			5	Mutual Oil Co						
15½	8⅛	14	9½	5	do cfts	10,800	11	11	10½	10¾	— ⅛
6⅛	3½	6¼	4½	5	New Bradford	200	4⅜	4⅜	4¼	4¼	— ⅛
52	15⅜	44	20	10	New England Fuel	300	33	36⅞	33	36⅞	+2⅞
21⅜	5	14	8½	25	New York Oil	800	9⅛	9⅛	9	9	— ⅛
1 1/16	.45	.80	.50	10	Omar O. & G	600	.50	.50	.50	.50	0
13	¾	3½	1	N.P.	Peer Oil Corp	3,200	1⅛	1⅛	1	1	0
14¾	9¼	16⅛	12¼	10	Pennok Oil	1,400	14¾	15	14½	15	+ ¼
		57¾	5¾	25	Red Bank Oil	9,600	45	48	45	47½	+1
6⅞	2	5⅜	3⅞	N.P.	Ryan Consolidated	200	3⅞	3⅞	3¾	3¾	— ⅛
14	6¼	10½	7¼	10	Salt Creek Cons	600	7½	7½	7¼	7¼	0
25¼	15¼	26⅜	19⅛	10	Salt Creek Prod	1,500	23¼	23¼	22⅝	22¾	— ½
4⅞	.75	2½	.80	5	Sapulpa Refining						
4	.65	1½	.30	5	Seaboard O. & G						
13½	6	16	8	10	Tidal Osage						
		139	132	100	Union of California	800	132	132	132	132	
10⅞	4	8⅜	4⅝	5	Wilcox O. & G	1,800	4⅞	5	4¾	4¾	— ⅛
		13⅜	7	N.P.	Woodley Petroleum	5,300	10½	11	10½	11	+ ⅜

Pittsburgh Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Aug. 29 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4½	10	Ark. Nat. Gas	440	4¾	4⅞	4½	4⅝	+ ⅛
33⅜	33	40½	35⅜	N.P.	Columbia Gas						
27	22¾	28¾	26¼	25	Lone Star Gas	150	28½	28½	28¼	28¼	— ¼
58	51	58	51	50	Manuf. L. & H	920	56½	*58	56½	58	+1
19	11	16⅛	11⅜	1	Ohio Fuel Oil	1,205	13⅝	14	13¼	13¾	+ ⅛
66	30⅜	39¼	31⅝	25	Ohio Fuel Supply	2,200	38⅞	38⅞	38	38½	— ½
24	18⅜	26	22¾	25	Okla. Nat. Gas	190	25¾	26	25¾	25¾	0
10½	5¾	9¾	6	5	Pittsburgh O. & G						
14	5½	10½	7⅛	10	Salt Creek Cons		7¼	7½	7¼	7¼	— ⅛
13¼	7	16½	9½	10	Tidal Osage						
		92	92	100	do pfd						
29½	23¾	33	27⅜	25	Union Nat. Gas	515	31¾	32	31½	32	0

†New high record

Pittsburgh Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Aug. 29 Sales	First	High	Low	Last	Ch'ge
		2½	2½	N.P.	Arkansas Fuel w.i						
1½	.22	.76	.20	5	Colombia Synd	400	.75	.75	.75	.75	0
2⅜	.26	.70	.30	5	Duquesne Oil						
37	10	9½	6	10	Forest Oil						
1¼	1	.15	.15	1	Grant Oil						
68	46½	64¼	57	25	Gulf Oil Corp	300	58½	58½	58½	58½	
.03	.02			1	Homer Union						
24½	16⅝	21	21	N.P.	International Pet						
		4½	4½	N.P.	Lago Petroleum						
8¼	4	6	5	10	Marshall Oil						
.36	.15	.39	.01	1	Mex. Wyoming						
		18	18	10	Mountain Prod						
2½	1⅜	2⅞	1⅜	1	Oklahoma Eastern	110	2½	2½	2	2	0
2	.60	.77	.77	10	Omar O. & G						
22½	7	8	5½	5	States Oil						
		14	10	10	Tidal-Osage, N. V						

*New High †New Low x Ex Dividend